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What of Railway Materials After the War? . . .

An article discussing the wide array of new and improved materials, equipment and techniques which will be awaiting adoption and use for more efficient rail transportation in the post-war period.

High School Boys Help Overcome Serious Track Labor Shortage.

More than 1300 16 and 17 year old boys on the Chicago, Milwaukee, St. Paul & Pacific, working in section and extra gangs, are accomplishing essential work, safely and skillfully.

Education for Reading Enginemen.....

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RAILROADS-IN-WAR NEWS

GENERAL NEWS

The Railway Age is Indexed by the Industrial Arts Index and also by the Engineering Index Service



PRINTED IN U. S. A.



SAVE TIME

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that rides in the cab!***

IN many sections of the country, particularly during certain seasons of the year, storms or prevailing fogs create operating problems which make "on-time" train performance difficult of accomplishment. "Union" Cab Signals have demonstrated their effectiveness in overcoming these obstacles to efficient rail transportation.

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Avoidance of delay is of vital importance to rail transportation whether under the compelling necessities of war or to meet the problems of peacetime competition. Cab signals have established their value today and will prove to be the needed signals of tomorrow. . . . May we explain in detail?

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and Constantly Visible.

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The Week at a Glance

POLITICAL RATES: Congress will have before it when it re-convenes a bill directing the I. C. C. to establish "a uniform classification of property and a uniform scale of class rates" throughout the country. The Commission could, without legislation, establish such rates—if in its experience it deemed them in the public interest, and not in violation of the provision of the law requiring that the rate structure be such as to promote the free movement of commerce. The leading editorial herein points out that this proposed legislation originates, not with shippers but with politicians—and that its effect would be to take rate-control from those who know the business, making it a rule-of-thumb matter ordained by those who know nothing of what they are doing. A short article herein reviews the opinion of the Western lines on rates, the purpose of which is to have the carriers finance an adventure in experimental sociology.

AXIOMATIC ERROR: This matter of interterritorial differences in rates and classifications has a superficial plausibility to it which makes it a "natural" for popular exposition by orators who know as little of what they are talking about as their audiences. By constant repetition the "discrimination" inherent in the present rate structure has achieved axiomatic acceptance by many journalists and public men who, ordinarily, are reasonably skeptical. It is like some of the popular beliefs about labor unions, e. g., that the A. F. of L. is always "conservative", or that a politician who votes exactly as the union magnates instruct him is necessarily a friend of the workingman. It is about time that shippers, carriers and regulatory authorities who know the facts about rate-making begin to do something to dispel the dangerous demagogic which is seeking to replace reason in this area.

LOW BO'S DELUSORY: Excessively low ratios of cars in bad order are secured, too often, by keeping cars in service when they need a trip to the hospital. Such is the conclusion of an editorial herein, which quotes a mechanical department officer as authority for this suspicion, and tells of instances of excessive repairs necessitated to cars bearing important lading, because the cars were not bad-ordered before loading, as sound practice would have required. Undue insistence on achieving an arbitrary statistic has had the effect, before this, of deflecting an operation from its true function.

PRO-BARGE OR ANTI-FLOOD: The federal government has spent fantastic sums on silt-bearing streams, allegedly for the dual purpose of promoting navigation and limiting flood damage. Actually, as an editorial herein explains, these two goals are frequently contradictory. For example, this spring's flood

in the Sioux City-Plattsmouth section of the Missouri river reached the level at Omaha of the record 1881 inundation, although the flow reached only about half the '81 volume. In other words, the river "improvements" have made floods worse—and flood damage is far more costly than the offsetting "benefits" of navigation. The editorial suggests that those who are losers from such arbitrarily-heightened floods should get more vocal about the injury they are suffering.

POST-WAR MATERIALS: Some of the innovations in materials available to the railways when peace comes, as a result of technological development and experience during the war, are suggested in an article herein by our Purchases and Stores editor. Among the possibilities he sees are changes in the design and composition of track fastenings; extensive new building products of lumber, asbestos-cement, glass, asphalt and gypsum; faster and more precise machines for equipment-building processes; freight containers of reduced tare weight; tougher and lighter steels; a wider field for castings because of improvement in their quality; far larger quantities of aluminum and magnesium for weight-reduction uses; synthetic rubber which will meet needs that natural rubber cannot; a wide application of plastics; variable speed drives on machine tools; easier metal-hardening processes and other applications of induction heating; improved fluorescent lighting and more efficient welding; revolutionary changes in material handling methods and equipment.

WHAT BUSINESS THINKS: 120 representative business executives were recently queried at length on their opinions about the railroads—and their highly-enlightening replies have been tabulated, being reported in the news pages herein. On the critical side, these business leaders' main complaint about current railroad service is the lack of courtesy by railroad employees. Of railroad advertising their principal criticism is that it doesn't say enough about what the carriers are going to do in the post-war period. On the whole, however, these business men were most favorably disposed toward the railroads; and, by an overwhelming majority, expect them to get their share of traffic in the post-war period, despite intense competition from other carriers.

SIX MONTHS' ACCIDENTS: In the first six months there were 8,209 train accidents, as compared with 6,232 in the first half of 1942. Fatalities to passengers in train accidents were 16 this year, as contrasted with 20 a year ago—but passenger injuries increased from 447 last year to more than double the number this year. Employee casualties rose, but those at highway crossings and to trespassers declined. Further details, as reported by the Interstate Commerce Commission, are tabulated in the news pages herein.

LOCAL "PLANNING": There are two kinds of "post-war planning" going on in local communities—one sound and the other highly injurious. The benign "planning" is that by local industries (especially under the aegis of the Committee for Economic Development) to maximize post-war employment in private enterprise. But local "public works" enthusiasts have climbed aboard the bandwagon, and are subtly injecting their boondoggling transportation-subsidy projects into the sound "community plans." This subterfuge is not only unhealthy from a standpoint of flourishing free enterprise, but it is especially designed to injure the railroads—as is further explained in the editorial pages herein.

LOCO. INSTRUCTION CAR: To assist its many new employees in locomotive service to a fuller understanding of their work, the Reading has in operation an unusually well-equipped instruction car which is now making the rounds of the company's engine terminals. This car is described in an illustrated article herein. The instruction is given by means of working models of the standard locomotive devices and recorded lectures, illustrated with screen slides. In addition, printed matter is distributed regarding the devices, from which those attending may, later on, refresh their memories as to the subject matter of the lectures.

NON-OP WAGES: Officers of the railroads and the non-operating unions, meeting in Washington last week, settled their differences as to a proposed wage increase for employees represented by these organizations. The terms of the agreement were not disclosed. Since approval by the Stabilization Director will be necessary before any wage changes can be made, it was, presumably, deemed advisable that what the conferees had agreed to be not made known, until it could be ascertained whether it would become a reality or not.

SLOWING UP THE FREIGHT: Lately a plague of car chasers has been turned loose on the railroads—each one regarding every car on his list as a matter of victory or defeat, and each one considering his traffic more important than that of anybody else. Almost all these fellows succeed in doing is to take up time of railroad men, answering their questions when they might better be out actually expediting the cars. An editorial herein suggests that some of these gentry might better be assigned to useful labor.

H. S. SECTION HANDS: 1,300 high school boys, 16 and 17 years old, are helping the Milwaukee meet the serious shortage of track labor. The lads are working, not only on section jobs, but there are several extra gangs—with camp outfits exclusively given over to housing and feeding them.

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RAILWAY AGE

Proposed Political Rate-Making

Proposed legislation raises squarely the issue whether the way freight rates are to be regulated in future is to be determined by Congress under political pressure, or by the Interstate Commerce Commission after full hearings and in accordance with its best judgment. There is economic dynamite in a bill that will be considered by Congress when it re-convenes and which directs the Commission to establish "a uniform classification of property and a uniform scale of class rates" throughout the country.

The Commission long has had power to do this if, in doing so, it would not violate the most important present provisions of the Interstate Commerce Act. These include the provisions prohibiting unfair discrimination between territories or shippers, and requiring (Hoch-Smith resolution) the fixing of the lowest lawful rates on agricultural products and such adjustment of rates generally as will promote the free national movement of commerce and enable the railways to earn a fair return. The Commission has not established a "uniform scale of class rates" throughout the country because it would disregard the existing provisions of law cited, and which the legislation now proposed would, in effect, repeal.

The origin and support of the movement for legislation to require a "uniform scale of class rates" are highly significant. It was not started by shippers. It was started by governors of southern states who for some years have contended that "interterritorial" rates on manufactured products discriminate against the south in favor of the east. The governors of southern states are now trying to get the governors of western states to back them by claiming that rates on manufactured products discriminate against the west as well as against the south. The fact that the movement is not one by shippers, but by governors supported by Congressmen from their states, sufficiently demonstrates that it is *political*, not economic, in its origin, character and purpose. The Interstate Commerce Commission has eleven members. Only two are from the east, three are from the south, and six are from the west. It has tacitly or expressly approved, or actually ordered, all the rates now in effect. How can it fairly or rationally be assumed that its nine members from the south and west have approved, or actually determined, scales of rates unfairly discriminatory against the territories from which they have been appointed?

The Interstate Commerce Act and the Commission have been in existence fifty-six years. The Act was written and has been repeatedly revised by members of Congress representing all the states. Congress created the Commission and gave its present large powers upon the theory that a permanent body in continuous session, with members appointed for seven years, and a large permanent staff of experts, would be more disposed and able to regulate rates impartially and expertly, with due regard to territorial and local conditions, and in the national interest, than Congress. The legislation now proposed would abandon this theory, which always has been the basis of federal rate regulation. By having Congress order the Commission to fix the same scale of class rates throughout the country, it would leave the Commission no authority over these rates excepting that of having them figured out on its comptometers. It assumes that Congress and the Commission's comptometers are more impartial and expert judges of how freight rates should be adjusted, in fairness to competing territories and shippers, to the railways,

Efficiency
FOR VICTORY

and in the national interest, than the Commission and its staff of experts.

This assumption on which the proposed legislation is based is obviously absurd. It would be adopted solely to serve the purposes of certain ambitious politicians, and in complete disregard of its disrupting effects on the nation's railways, its agriculture, its industry and its commerce. Are not politicians, for their own selfish purposes, presenting the nation with enough difficult post-war economic problems, without adding to them the effects of wholesale disruption of its structure of freight rates?

Weight-Lifting Injuries

Injuries due to weight lifting and carrying are far more serious and extensive than is generally recognized. While more and more mechanical lifting and conveying apparatus has been introduced on the railroads in the interests of increased production and greater efficiency, a very considerable amount of manual lifting is still practiced, much of which, of necessity, will probably be continued. In A Guide to the Prevention of Weight-Lifting Injuries, published by the Division of Labor Standards of the United States Department of Labor, the statement is made that statistics from three leading industrial states indicate that strains, sprains and hernias constitute about one-fourth of all industrial accidents, and that about one-half of these may be attributed to lifting and carrying weights.

These figures check fairly closely with somewhat similar studies made by the National Safety Council; in other words, roughly about one-eighth of all injuries are due to strains and sprains incurred while handling objects. The seriousness of these accidents, from the standpoint of manpower and absenteeism, is emphasized by the fact that usually the length of disability is a matter of weeks, rather than days.

Mechanical lifting and carrying equipment, even if available, cannot satisfy all of the requirements, although studies should be made to reduce manual handling of heavy and bulky objects to a minimum. There are many places, however, where it is impracticable to replace manual operations. As a rule of thumb, it is suggested in the Department of Labor pamphlet that manual lifting be restricted to 50 lb. in a compact form, for men, and 25 lb. for women.

Adequate training and supervision are important here, as in all other operations. It is suggested that before a worker attempts to lift manually he should make sure that (1) both his hands and the object to be lifted are free of oil or grease, so that he may obtain a firm grip; (2) that the floor is free of debris, oil or water, in order that he may be sure of firm footing; and (3) that the weight is not too heavy for his unassisted efforts.

Do Expeditors Expedite?

During the hectic period of 1917-18, when freight cars were in almost inextricable confusion, the "car-chaser" came into being. Probably there was some justification for the job under the chaotic conditions then existing. As a matter of fact, it took practically one car-chaser for every car if the materials were to arrive within a week of the scheduled time. Even then, the railways would have managed very well without car-chasers, if they could have gotten out from under the welter of government transportation priority orders.

In this war, the situation is quite different. All the agencies concerned decided in advance that transportation was to be handled in as orderly a fashion as possible. No one can deny that the railways have met the test with flying colors and transportation has not been a bottleneck in the war effort. Therefore, the need for the flock of "expeditors", who have become more and more obnoxious of late, is somewhat obscure, so far as railway transportation is concerned. They may serve a useful purpose in the procurement and assembly of materials, but, to the railways, they are an unmitigated nuisance.

No one questions the importance of getting an absolutely vital carload through to a destination where it is badly needed or resents having an "expeditor" or someone else in authority point out the necessity for such movement. Unfortunately, the matter does not stop there. To the "expeditor", every car number on his list is "absolutely vital" and each "expeditor" claims precedence over all others of his type. Recently, they have descended upon the railways like a plague of locusts; they infest freight yards, they interrupt busy railway officers with a succession of calls in person or by telephone, and they accomplish no purpose sufficient to justify the amount of confusion and extra work which they cause railway officers and employees.

There are too many people already interfering with the transportation of the nation's war freight. In many cases, putting a gold bar on the shoulder of a former file clerk in an industrial traffic manager's office gives him delusions of grandeur and imbues him with a terrific urge to pester railway men who are already laboring under a heavy overload. There are also vast numbers of men not in uniform traveling up and down the land in official or quasi-official positions sanctioned by Washington. Some of these know what they are doing and help rather than hinder the nation's transportation. There are too many others, however, who are incompetent and add a quite unnecessary problem to the burdens of already harassed railway men.

Despite all this, the railways have continued to do a marvelous job. There must, however, be a limit beyond which meddling and interference cannot be overcome.

"All Is Not Gold That Glitters"

The attainment of spectacular low percentages of equipment in "bad order" is generally considered highly desirable and railroads have received much praise for their achievement along this line in recent months, the thought being that a larger proportion of equipment is thereby made available for road service and handling the nation's war and civilian traffic. An abnormally low percentage of bad order equipment, however, is far from an unmixed blessing. In fact, it may prove as false, illusory and disappointing a goal to the seeker after railway efficiency as a piece of well-rubbed shiny brass would be to anyone who was looking for gold.

Take the case of "bad order" freight cars, for example, which many roads have reported comprise only one or two per cent of revenue cars on line. In view of the relatively small number of new freight cars installed in the last 12 months, and the general curtailment of heavy repair programs, it appears certain that such low percentages can be accomplished only by keeping some and probably many cars in service which really should be shopped for repairs. At least one experienced mechanical officer subscribes to this idea, as expressed in the following comment: "Based on the actual condition of foreign-line cars delivered to the railroad during the last 12 months, I have no hesitancy in saying that it is my candid opinion and belief that the all-time low in bad order freight cars was accomplished by the simple expedient of applying so much pressure on car department officers and supervisors to reduce the number held out of service on account of being in bad order that large numbers of cars, in need of extensive repairs to put them in suitable condition for general service, were released and placed in service without proper repairs having been made."

Possibly a limited number of these cars might be in sufficiently good mechanical condition to justify some additional local service on home lines, but it is certainly uneconomical and inefficient railroading to permit substandard cars to remain in general interchange service where they may have to move with valuable loads one-half or possibly all the way across the continent at relatively high speeds and sometimes over several mountain ranges. For such severe service, the regulations set up by the A. A. R. Mechanical division for structural strength, wheel, truck, brake, coupler and draft gear conditions, represent minimum requirements. Obviously, railway managements must establish the general policy to be followed in maintaining car equipment, but, in the last analysis, freight cars should not be released for service contrary to the better judgment of local car supervisors and inspectors who have an intimate knowledge of freight car conditions and requirements and are responsible for passing cars which it is reasonable to expect can proceed to destination without delay or failure.

Proof of the need for more critical attention to freight car conditions is afforded by the large number of loaded cars which are being carded bad order, also by the increasing number of loaded cars which have to be transferred on account of old defects which give every appearance of having existed prior to the last loading. In a short test period at one interchange point, 49 loaded cars were transferred, practically all of them carrying critical war materials for the Pacific Coast.

It seems plain, therefore, that less emphasis on the low percentages of bad order cars, and much more action to replace worn-out equipment with new cars and substitute to the fullest extent possible heavy repair programs for more or less temporary light repairs, are urgent requirements if railroads are to continue solving the transportation problem which faces them.

Navigation vs. Flood Control

One of the pet projects of the waterway navigation proponents in recent years has been the "improvement" of the Missouri river from its mouth to Kansas City, then to Omaha and again to Sioux City. In this project, into which more than \$175,000,000 of taxpayers' money has been poured to date, the objective is to provide a navigable channel for boats drawing up to 6 ft. of water. To secure this depth the government has lengthened the channel by replacing direct flood chutes with "lazy bends" to provide a lower and more uniform gradient and has built hundreds of dikes and dams to confine the channel to the new location. Furthermore, as the current is retarded, silting increases, tending to reduce the channel section. This has been supplemented by widespread construction of levees by land owners to prevent the water from overflowing their bottom lands.

Through these measures the relief that nature has long provided for the severe floods that occur at intervals through more rapid discharge over shortened channels and through overflow of adjacent lands has been eliminated.

This development is of very direct concern to the railways, for they have large investments in this and other similar valleys, since those valleys provide the logical location for important lines. It is of equal concern to other industries and to cities which have developed in these flood plains.

The effect of these changes is shown strikingly in the flood in the Sioux City-Plattsmouth section of the Missouri last April. At this time a flood that carried only about half the record flow of 1881 rose to approximately the level reached in the earlier flood at Omaha, where the city and its industries, including some of the railways, suffered great loss and a number of the railways were put out of commission. Expressed in another way, gage readings at Omaha show that the

gage has risen 6.9 ft. in seven years for a discharge of 111,000 cu. ft. per sec.

The reason for this condition is obvious. As the floodway is constricted, the passage of a given volume of water must of necessity create higher levels, and this is what is occurring. Furthermore, this will continue to occur in flood periods so long as additional restrictions are introduced into the floodway to maintain a low-water channel for navigation.

The railways have long emphasized the lack of economic justification for the expenditures made for the canalization of the inland waterways to promote their use as agencies for navigation and they have seen their predictions materialize regarding the lack of traffic attracted to them. To this argument should now be added that of conflict between navigation and flood control interests, a basic conflict to which entirely inadequate consideration has been given to date. This is a problem that warrants fullest investigation, in the light of what occurred at Omaha, to insure that those who seek to change the low-water characteristics of a stream in the interests of navigation do not thereby introduce conditions that will jeopardize the security of other interests in periods of maximum flood. To the extent that this occurs, its correction and the protection of railway and other properties constitute a legitimate addition to the cost of navigation and the railways and others owe it to themselves to insist that adequate protection is provided. Because of their large property investment in these flood plains, the railways should investigate the security of their protection in such areas without delay.

An Unprecedented Program of Post-War "Public Works"

The federal government is not alone in planning large post-war expenditures on "public works." There is a trend becoming general in community "planning" which has serious implications for the railroads, and requires close watching if great injury to them is to be avoided.

Detailed blueprints are being prepared in many if not most states and municipalities for local projects of a "public works" character—highway viaducts, enlarged airports, monumental public buildings, improvements in river navigation. With time on their hands because of the curtailment of governmental construction not helpful to the war, engineers on the public payroll are giving free play to their imaginations; and there is scarcely a considerable highway intersection, a narrow road bridge or a heavy grade anywhere for which an elimination scheme has not been visualized and planned down to the last rivet and bag of cement. Government engineers would be ready for bids on millions (perhaps billions) of such projects tomorrow if the war should end today.

Here is a specific local example: The Kansas City Times and Kansas City Star are morning and afternoon editions of a single newspaper. The Kansas City Times recently said: "If people are going to be asked for billions more in new taxes—and they are—then they insist and demand that every dollar of this money and other tax money be spent for absolute necessities in government and for nothing else." But the Kansas City Star recently reported two large urban highway and several "flood control" projects in its community as either fully planned or in progress. The president of the Chamber of Commerce was quoted as favoring, not only these projects, but others of similar character—being especially concerned that community resources be employed for the further development of aviation.

His only "plan" for the railroads was negative. He joined the chorus of those who criticize present western and southern freight rates as "prejudicial" to those areas.

This kind of local "planning" is potentially dangerous to the railroads, because—

(1) It is not being done by socialized dreamers at Washington, but is the work of, or at least is supported by, local civic and business leaders who have political influence both on Capitol Hill and in the state legislatures.

(2) The socialism of such projects is deftly concealed—their declared purpose being to "do something for business" by political action, whereas their real purpose is to supplant private investment (especially in transportation) by public expenditures.

(3) These "public works" projects are subtly identified with the *sound* community program of the Committee for Economic Development, which is encouraging private business to contrive plans now to maximize their post-war markets, production and employment.

(4) These schemes, being already blueprinted, will have a strong appeal for those who will clamor to "do something", however impractical, the moment serious unemployment threatens.

(5) Most of these plans are concerned with "improving" transportation by methods other than railroad, and as a clear gift from the taxpayers to the rivals of the railroads.

Consequently, if they materialize, the railroads will be doubly disadvantaged. They will see their competitors' facilities improved at the taxpayers' expense, while, from resulting loss of traffic, their own credit, whence they might expect to make a parallel improvement in railroad facilities, would be diminished.

The carriers are faced with a difficult and complex public relations problem, if they are to forestall additional handicaps in competition promoted by business interests that cannot abstain from violations of their professed free enterprise principles which they believe will be advantageous to them.



What of Railway Materials After the War?

A wide array of new and improved materials, equipment and techniques will be awaiting adaptation and use for more efficient rail transportation

The Wartime Progress in Steelmaking Promises Many Better Steels That Will be Ready to Serve the Railways After the War

DRIVEN by the lash of war and the necessity of production demands that a few years ago would have been considered fantastic, American science and industry have attained new heights of achievement during the last two or three years. Today's outstanding developments in metals and their alloys, synthetic rubber, electrical apparatus and lights, glass, wood fabrication, synthetics, cements, asphalt, asbestos and gypsum give but a hint of what may be expected in new and improved railway materials in the post-war period. The experience gained in the building of planes, tanks, ships and guns, plus the stepped-up manufacture of thousands of items for our armed forces, is bound to result in the development of many better materials and more efficient railway equipment.

With all the resources and all the energy of our nation now being devoted primarily to the defeat and the unconditional surrender of the Axis partners and their satellites, any definite prediction as to the type and design of post-war motive power and rolling stock would be premature. The beginning of a new era in rail transportation was interrupted and halted, to a large extent, by the war but, with the cessation of hostilities, demands for service will increase; competition will be keener; emphasis will be placed on speed as never before, all of which means that the railways must be prepared to meet these demands with faster and more efficient freight delivery schedules and improved passenger transportation. When once again American industry turns from the duties of war to the ways of peace, a vast array of new and improved materials, equipment and techniques will be ready at the hand of the designer of railway equipment.

The composition and design of rail, tie plates, joint bars and track fastenings doubtless will be influenced by the extensive developments in metallurgy, the adoption and use of simplified designs during the war period, as well as the experiments that still are being carried on to a limited extent in this field. A broad line of new and improved materials, including new ways of forming,

shaping, joining and bonding lumber, extensive developments in plywood, flexible asbestos-cement sidings; glass, asphalt and gypsum products, all designed for better and more efficient building construction will be available in quantities after the war.

Outstanding among the things to come will be the new, faster and more efficient machinery and equipment, with precision controls to regulate various processes for locomotive and car shops. Material-handling equipment has undergone a complete revolution. The application of hard chromium, having controlled porosity and smoothness, to the cylinder bores of internal combustion engines and other bearing surfaces, provides improved lubrication and low friction qualities that add greatly to both actual service life and efficiency. Automatic arc welding equipment, precision molded heat insulation, precision grinding wheels that have stepped-up grinding of hardened tool steel in war plants from 100 to 400 per cent, new scientifically-designed containers that provide maximum protection with minimum tare weight and assure faster and safer handling of shipments—these are indications of the many new developments that will be expanded and applied to peacetime pursuits in the days to come.

Many Extensive Developments in Steel

The progress in steel making, born of these war years, promises much in the new era of rail transportation which will follow the war. As yet, with every nerve in that vast industry keyed to war production, comparatively little is heard of the proposed peacetime applications of the many new war developments in steel. Yet it is certain that better steels will be ready to serve the railways and will be applied at a faster pace when wartime demands no longer come first.

Straws in the wind are the tremendous developments in electric furnace steels and centrifugally cast steel. Already, a single company has increased its electric fur-

nace capacity by 700 per cent. Electric furnace steels in new and improved chemical contents, attained through precise control, will make possible many new developments in rail transportation. Added strength and toughness, essential to safety and efficiency at high operating speeds, plus the ability to reduce overall size and weight by reason of these very qualities and so to employ smaller sections, indicate a broader use of these steels for motive power and rolling stock. Already precision of control has demonstrated that electric steels can be produced to accurate chemical analysis—accuracy that predetermines physical, heat-treating and fabricating qualities and fits these products to high degrees of exactness so essential to the profitable flow of mass production.

The war years have given a tremendous impetus to what had previously been a gradual but continuous increase in the use of centrifugal casting methods for producing high quality castings. Not only does centrifugal casting represent an improvement over static casting methods but it is also a method of producing steel castings directly from molten metal. Whereas engineering parts of cast steel formerly were made only from forgings, which necessitated the pouring of ingots, several successive stages of rolling and, finally, the rough forming, these parts can now be made directly from molten metal. Since all centrifugal casting is in effect pressure casting, in that the molten metal is forced against the wall of the mold under relatively high pressure, it has the advantages of eliminating or reducing shrinkage cavities and gas pockets and developing a denser metal in the finished product.

Tubular castings and cylindrical shafts up to 16 ft. in length; tubes 4 in. to 36 in. in diameter, with wall thicknesses ranging from $\frac{1}{2}$ in. to 4 in.; wheels; gears; wheel hubs; cylinder barrels and idler hubs of various high alloy steels as well as non-ferrous metals are among the products that are being manufactured successfully by centrifugal casting.

The Lighter Metals

Aluminum and magnesium, the light metals, have great potentialities in postwar adaptation to rail, bus and truck transportation. Weight saved in the building of rolling stock means more capacity for revenue loading and less fuel for transportation. Magnesium, now the lightest of the light metals, is recovered from sea water and, millions of pounds, also facilities for the fabrication of castings and wrought products, will be available for industry and transportation after the war. The high strength-weight ratio of magnesium castings, forgings, shapes and sheets and fast machining are its outstanding characteristics. Magnesium is now being worked at the maximum speeds and feeds at which manufacturing machines will run. Cuts are deep but finishes are fine, resulting in fast production and good quality.

Apart from metallurgical considerations, the governing factors that will influence the use and adaptation of the wartime developments in metals are availability and price. By the end of 1943, the United States will be able to produce aluminum at the rate of 2,100,000,000 pounds per year—a quantity sufficient to replace every railway passenger car in this country every four months. This increased productive capacity shrinks almost into insignificance the average yearly pre-war production of 182,000,000 lb. for the years 1929 to 1938. Throughout its history, the price of aluminum has shown a downward trend. From a price of 20 cents a pound at the war's beginning, four subsequent reductions have brought

its price to an all-time low of 15 cents per pound, with pig aluminum now available at 14 cents.

The expansion of aluminum capacity for national defense and war was brought about by three steps: (a) expansion by private industry; (b) the letting of contracts by Defense Plant Corporation for the construction of additional aluminum plants, which may remain after the war to compete with existing facilities; and (c) the more recently announced DPC program for the building of emergency plants to utilize standby power in metropolitan areas—power of relatively higher cost, making it questionable whether such plants, now gravely needed, will be able to compete in peacetime economy.

Wider Uses for Aluminum

Although the tremendous capacity for producing aluminum now is being used in its entirety for military applications, after the war there will be more aluminum available for railway, industrial and general use than at any time in the metal's history. Among the developments of the aluminum research laboratories for military use are many that promise to be useful to the railways in the post-war period. Aluminum alloys of greater strength, now employed to better the performance of war planes, will open up wider fields of application for aluminum alloys after the war. For example, the redesign of air-cooled airplane engines, to employ forged aluminum cylinder heads with double the strength of cast heads, stepped-up the horsepower of these engines by 15 per cent.

Finishes, unique to aluminum, obtained by chemical and electro-chemical treatments, and synthetic resin coatings are being developed and applied to aircraft and other military equipment; and new joining techniques, such as brazing, are being employed for light-weight assemblies of aircraft. A backlog of these and many other new applications points to a broader expansion of aluminum in the field of rail transportation. At present no aluminum is available for experimental use unless the work is directly related to the war program but, when the tide of war has definitely turned, it is reasonable to expect that the government will permit and encourage the use of various metals for experimental purposes so that the vast array of new alloys of steel, magnesium and aluminum will be ready for further development and adaptation to peacetime requirements.

Since the first aluminum streamlined train was placed in service in February, 1933, some twelve aluminum streamliners have been built and are now in service. By reason of their performance they are likely to be the forerunners of many more aluminum trains. Moreover, the extensive tests of aluminum hopper cars for the transportation of coal and sulphur point to a broader use of aluminum for freight equipment.

Although the application of aluminum to building architecture dates back about twelve years, this field has been barely touched. Some of the more dramatic applications include the spandrels of skyscrapers, decorative statuary as well as molding and trim but there are many applications awaiting development. By virtue of its resistance to the elements and corrosion, the use of aluminum for window sash and frames may be extended to plain and corrugated siding and roofing. Aluminum paint, by reason of its durability and light-reflecting qualities, has been used generally throughout industry. Its use as a prime coat for wood was just getting under way on a broad scale before the war and these are additional applications that will not only be renewed in the post-



war period, but also uses which undoubtedly will be expanded considerably.

What's the Future of Synthetic Rubber?

As one of the most dramatic of the new developments in materials to come from the maelstrom of war, synthetic rubber will do many things that are impossible to accomplish with the natural product. What of the future of synthetic rubber? Natural rubber probably always will have a place in industry, but the recent price reduction of synthetic rubber may mean that, in the future, synthetic and natural rubber may meet on a more nearly comparable price basis.

While natural rubber undoubtedly can be produced cheaper than its present market price, new advances in production methods may be expected to make the synthetic more competitive.

The predominant characteristics of synthetic rubber include its superior resistance to oil, grease, water and sunlight; it flexes longer, stands heat better and in addition to its broader application in the industrial field, it usually is better adapted to almost all of the uses of the natural product. Some formulations of synthetic rubber retain their flexibilities at temperatures of -80 deg. F., and one type can be bent readily through an arc of 180 deg. at -105 deg. F. Probably the most important characteristic of synthetic rubber is that it can be "tailor made" to meet specific needs and as such it has almost an unlimited future.

One form of synthetic rubber, originally developed as a flexible lining to protect water tanks and equipment for the manufacture and distribution of corrosive chemicals, possesses such a marked ability to withstand oils, water, sunlight and time (the oxidizing elements that quickly destroy natural rubber), plus such strength and durability, that its uses have been greatly expanded. It is now made in a wide range of rigid and flexible sheets, tubes and rods, in liquid form and in formulations for molding.

As a liquid, it is applied as a protective coating against corrosive fumes and produces a film that resists cracking, crazing, chipping and weathering. Liquid formulations also are used to impregnate materials to make them water-and-corrosion proof and flame retardant. One type is so effective that a small amount will transform paper into a tough, durable material impervious to oil, grease and dirt and resistant to heat and abrasion; it is used as a protective wrapping for machinery in transit, for boxes and cartons, bookbinding and luggage.

Flexible tubing, made from synthetic rubber, is used to transmit fluids and gas and as insulation for electric cables. A wide range of intricate small parts are made from synthetic rubber formulations especially adapted for molding purposes, for example truck tires that are unaffected by oily shop floors and that are longer-wearing than those made from natural rubber.

Plastics—From Planes to Journal Box Lids

Fully as spectacular as the wartime development of synthetic rubber has been the development and application of plastics, particularly in the aeronautical field. The primary use of plastics in this case has been for structural members while the most important secondary development is in the transparent semi-structural members used extensively for cockpit enclosures, windows, turrets and gun emplacements. In these instances all of the new plastics have won their place through merit alone. With their use augmented by resourceful methods of

forming and cementing technique, designers have been enabled to plan transparent structures of almost any size and shape, with the assurance that the manufacturers can furnish the materials.

A partial list of the additional successful applications of plastics to war planes includes control wheels, handles, seats, floors, window frames, trim tabs, pulleys and pulley brackets, ammunition boxes and chutes, electrical apparatus, landing wheels and fuel tanks—all in themselves indices of what may be expected in the broad expansion of the use of plastics after the war. The accelerated pace of fast-traveling plastics is carrying these materials still further into the transportation field. A journal box cover molded from one of the plastics has been developed and tests in actual service already have shown that it possesses a high resistance to shock under extremes of high and low temperatures; yet it is sufficiently flexible to allow the cover to spring into position to seal the journal box opening.

Introduced primarily as a substitute for the critical metals, plastic pipe and tubing already meet many of the demands made on metal pipe, in addition to possessing valuable properties uncommon to metal tubing. The new plastic tubing, available with threaded joints and easily welded, is approximately one-quarter the weight of steel pipe in corresponding sizes; it has a high degree of chemical resistance and is unaffected by commercial acids and alkalies.

Oil, gas and water can be carried with no apparent ill effects to the contents or the tubing, but the new material is not adapted to severe freezing, although it may be used with temperatures up to 170 deg. F.

Plastic casings for electric hand tools and plastic hardware for buildings today mean fast production of necessary parts and the release of critical metals for other purposes in our war against aggression. Tomorrow, plastic casings may mean lighter weight tools, more power per pound, easier handling and better performance in locomotive and car shops. Tomorrow, plastic hardware may mean lustrous hardware for stations and office buildings; economical, for it will be mass molded without the need of tedious machining steps, polishing or lacquering—color that is an integral part of the material and will not wear off, a finish that will not corrode and requires no polishing.

Wide Extension in the Service of Wood

The lumber mills and the modern wood fabricating plants of the nation present a new conception of the future possibilities of engineering in lumber. New ways of forming and shaping lumber, the broad expansion in the use of timber connectors, the development of new glues and bonding methods, extensive developments in plywood, the effectiveness of fireproofing treatment, and many other new products, pressed into war service to speed erection and to conserve critical materials, are bound to retain many of their applications and doubtless will be adapted to many new uses after the war. By reason of its immunity to corrosion, the fact that laminated timber construction, pound for pound, is stronger than steel and that structural members can be made to almost any size and shape within specific limits, laminated wood roof trusses, arches, rafters, ply-beams and other structural members may well be adapted to shops, trainsheds, stations and many other railway structures.

Dramatic developments in plywood, employing phenol resin cements and bonding by means of high frequency electrostatic heat treatment, have produced an amazing new material that has had its grueling test in the wings

of the "mosquito" bomber. The phenol resin finish is as smooth as glass and blow-torch tests which required only 12 seconds to burn through $\frac{1}{2}$ -in. steel plates required 39 seconds before the flame penetrated the new laminated wood product of the same thickness; moreover, the test did not set the wooden panel afire even though it had not been given any special fireproof treatment. Made of hot-plated and heat-treated phenol resins, plywood shipping cases, highly resistant to termite and fungus attack, have been used for consignments shipped to our military forces in the tropics, and reports show that for months they have withstood the termite attacks and rigors of a climate that destroy ordinary cases within a comparatively short period.

These and other new plywoods and molded wood products, many scarcely out of the test tube of American science, offer extensive possibilities in the post war period. Whether the most important of these uses will be as siding and sheathing for freight cars, or for the interior finish of passenger cars, stations and office buildings, it is yet too early to venture a prediction. However, by reason of their many outstanding physical characteristics, the fact that they can be made to order to meet innumerable engineering requirements, and that they lend themselves to a broad diversity of decorative treatment places them within the category of new products that will mean so much to the continued development of rail transportation after the war.

Electronic Control and Fluorescent Lights

Numerous new production tools have been introduced as the result of the research and developments of America's electrical manufacturers. Electronics has revolutionized variable speed drives, giving a full range of stepless speed control of such machines as drill presses, to increase the speed, range and size of the work handled; to grinders, for precise speed selection and improved finish; to milling machines, for increasing the range of work handled and to simplify design; and to conveyors, to match speeds.

New induction heating units now enable manufacturers to surface-harden parts in seconds compared to hours with other methods, such as carburizing. Increased production and steep reduction in costs are the result and, since induction heating localizes the heat, only the section to be hardened is heated. In hardening such parts as gear teeth, induction heating provides the exact hardness desired and to a prescribed depth, resulting in practically no change in the structure of the unheated part. High-frequency induction heating has been spectacularly successful in the forging, brazing, hardening and casting of ordnance materials and its application after the war is a foregone conclusion.

Heating by Infra-Red Rays

Infra-red heating tunnels have drastically reduced the time of production drying, sometimes from hours to minutes; for example, a newly painted tank dries in four minutes as it passes through a tunnel of infra-red lights without the driver leaving his seat. Production lines are being patrolled by electric devices which eliminate human errors; million-volt X-ray equipment, and gamma ray machines detect flaws in castings; electric flaw detectors are employed for non-ferrous drawn metal tubing; electronic devices for counting and sorting the products of thousands of war plants.

As the result of consistent research and new developments, fluorescent lamps (introduced in 1938) now last

66 per cent longer and are nearly 34 per cent brighter. Consistent and substantial price reductions now provide more value for the lamp dollar, while actual case histories in war plants point to many advantages for the new form of lighting. In one machine shop, after the changeover to fluorescent lighting, output increased 5 per cent, accidents fell off 50 per cent and 25 per cent less scrap resulted from the plant operations. Results in office work are equally interesting, showing 10 per cent less holdover work and fewer errors in typing.

Many Broad Applications Possible

These are only a few of the direct applications of new electrical developments. Synthetic flame-resistant insulation, so tough that it does not require braid or tape to protect against mechanical injury, moisture proof, heat-resistant, flexible, and produced in distinctive colors, is now available for all switch and signal circuit wires throughout relay racks as well as interlocking machines. Automatic arc welding has been developed to the point where it so reduces physical effort that welding has become one of the preferred plant jobs and can be done readily by women workers. Improvements in electrodes have reduced production time in some cases up to 33 per cent in man hours. And so, one might continue through a long list of innumerable new products, new applications and new developments of the electrical manufacturers that will find a broad application in the economic set-up of industry and transportation after the war.

Typical of the scientific approach and the all-out cooperation of American industry in our nation's war has been the adaptation and development of remote control systems based on the railway air brakes and the experience gained through 75 years of railway application and development. Pneumatic, pneumatic-electric and pneumatic-hydraulic remote control systems have been developed and applied to help improve output and better the performance of ships, cranes, earth-moving equipment, and machinery in manufacturing plants, as well as mining and drilling equipment. The slightest movement in the graduating control produces a proportionate movement in the operating mechanism and, when a fixed cycle of operation is desired, timing it at the will of the operator, but sequence cannot be varied through ignorance or human error. Moreover, safety or limiting devices usually can be directly interlocked without complicated auxiliary equipment. Such developments as these will have a far reaching influence on the equipment and materials of the post-war period, developments that will speed-up production, lower costs and better performance and, when the emphasis is no longer on production for war, their adaptation and use for railway machinery and equipment, as well as in the production of railway materials, cannot help but exert a great influence.

The broad picture of industrial development during the war years shows the production of many ingenious materials and devices that will make for greater efficiency and better living in the days that follow the war. For centuries the bristles of the wild boars of China and Russia were considered indispensable for good paint brushes. Spurred on by the demands of war and the virtual closing of the Chinese bristle market, American science has brought forth a synthetic bristle that has the taper and "flags" so necessary to a good paint brush and which can be used with 85 per cent of the paints now on the market. Typical of the die-casting production today are zinc alloy castings, illustrating the shortest route from raw material to finished product—the transition from molten metal

(Continued on page 275)

High School Boys Help Overcome Serious Track Labor Shortage

More than 1300 on the Milwaukee, 16 and 17 years old, in section and extra gangs, are accomplishing a large amount of essential work, safely and skillfully

THE Chicago, Milwaukee, St. Paul & Pacific is now employing more than 1,300 boys in various classes of track work, recruited from high schools and preparatory schools in the towns and cities along its line. On its LaCrosse-River division, in Wisconsin and Minnesota, alone, it is now employing more than 500 boys in section gangs, in large boy gangs working out of nearby communities, and in large camp gangs located at several points.

Conceiving the plan early in the season, the Milwaukee, by late April, already had more than 500 boys lined up for week-end and summer vacation work on the tracks, and more than 200 actually working Saturdays. By early June, with the closing of many schools for the summer, the number of boys working full time in extra and section gangs—by themselves, or with seasoned employees—had been increased to approximately 500, and by the end of June, with the closing of many additional schools, this number had been further increased to more than 1,300.

Employ Athletic Coaches

Many questions were raised concerning the ability to interest boys in track work, and the advisability of hiring them in large numbers if available. Seeking an answer to the question of whether boys would be interested; working either out from their home towns daily or from camps, the railroad raised the question with a number of the school principals and athletic directors along the line. On the LaCrosse-River division, the superintendent and division engineer, accompanied at times by the district safety engineer, visited the school authorities in the larger cities and towns. They explained their need for manpower and spoke frankly of the nature of the work to be done, and of the conditions under which it had to be done. At places, they offered regular section-gang work to the boys, with transportation on motor cars to and from work daily. At a number of other towns they offered the boys extra-gang work with motor car or bus transportation to and from their home headquarters, and at still other places, they offered camp life to the boys, in camps exclusively for them.

To insure proper supervision of the boys in the camps and while at work, and to win the consent and co-operation of their parents and school authorities, they offered to employ the athletic coaches of the local high schools to live and work with the boys. Even in the case of the large extra gangs of boys to be worked from their home towns, the road offered to hire the local athletic coaches to supervise conditions and to stimulate the general morale. Almost without an exception, the plan appealed to the school authorities, and, in turn, to a large

number of the boys, with the result that at many points, applications for employment exceeded the immediate need.

Many Large Gangs

Early in April, the LaCrosse-River division already had approximately 70 boys at work Saturdays, who also worked during the four days of the Easter school vacation. By the middle of June, it had a total of 141 boys working on a nine-mile section of new second-track construction between Red Wing and Hastings, Minn., this force including 51 boys in a day gang from Red Wing, 41 boys in a day gang from Hastings, and 49 boys housed in a camp car outfit on the job. In addition, it had a 100-boy gang working out of Wausau, Wis.; a 35-boy gang working out of LaCrosse, Wis.; a 35-boy gang working out of Viroqua, Wis.; a 40-boy gang working out of Portage, Wis.; a 40-boy gang working out of Watertown, Wis.; a 20-boy gang working out of Wisconsin Rapids, Wis.; and from three to six boys working regularly in a large number of section gangs.

In the meantime, other divisions were showing similar interest in boy gangs and, in addition to the employment of large numbers of boys for section and extra-gang work, working daily from home headquarters, there were by early June a 100-boy camp at Freetown, Ind., on the Indiana division; a 90-boy camp at Spencer, Ia., on the Iowa division; a 130-boy gang at Lena, Wis., on the Wisconsin division; and a 50-boy gang at Madison, S. D., on the Iowa & Southern Minnesota division.

Generally, the boys employed in section gangs and in the camp gangs are carried to and from work on motor cars and trailers. In the large day gangs working out of the principal towns, transportation for the boys is either by motor cars and trailers or by highway buses, depending upon which type of equipment is available and which is best adapted to reaching the locality of the work.

To a large extent, to date, the boys, whether in section or extra gangs, have been employed in spot tie renewals, spot surfacing, and in general track raising and surfacing operations. In fact, with a large program of such work ahead, it is expected that they will be employed largely on these classes of work throughout the summer, although it is the plan to use the boys in other operations, including rail laying, as necessary, assigning them the tasks for which they are best fitted.

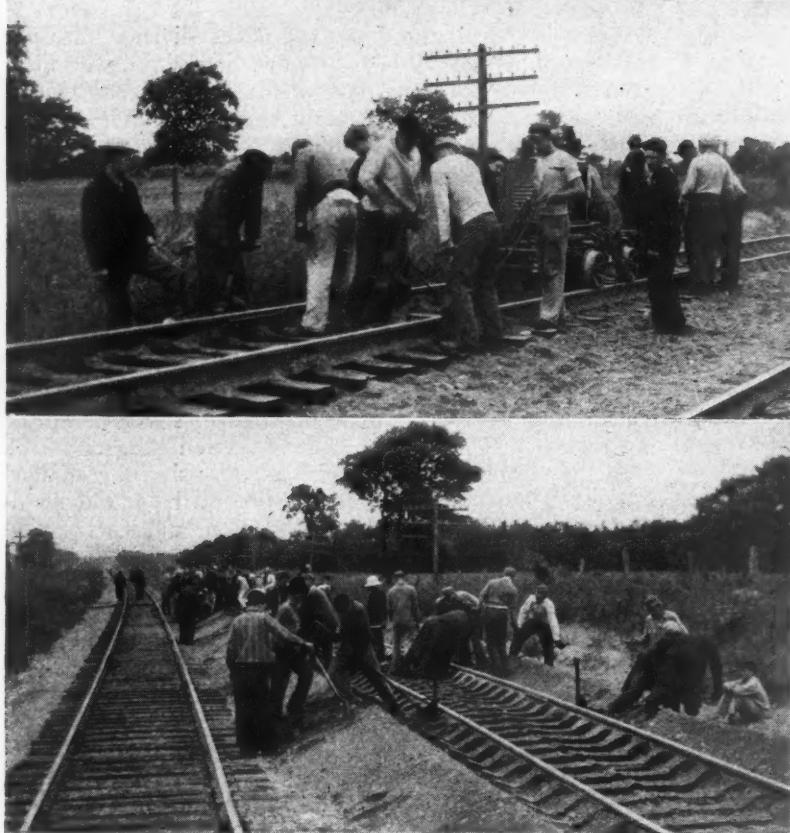
Build Nine Miles of Second Main Track

One of the outstanding pieces of work already completed by the boys on the LaCrosse-River division is the nine-mile stretch of second main track between Red Wing and Hastings, already referred to, this work hav-

A Few of the More Than 1300 Boys Engaged in a Wide Range of Track Work on the Milwaukee. The Gang at the Right Has Been Placing Ties in a New Second Main Track.



LEFT—Final Surfacing Approximately Nine Miles of New Track With an Electric Tie Tamping Outfit



ABOVE—Lining Track. BELOW—Spacing Ties Ready for the Full Spiking and Ballasting of a Section of New Track

ABOVE—A Group of Approximately 70 Boys in Ballasting Operations. BELOW—In the Dining Car of One of the Camps Maintained Exclusively for Boys



ing been done by boys ranging in number from 70 to approximately 200, supplemented in certain operations by a number of experienced track men.

Varieties of Work Done

Starting by working week-ends, and then regularly six days a week, the boys were first employed carrying the ties over onto the new dump and laying them in approximately final location. Later, after the rail had been unloaded onto the ties by an experienced rail unloading crew, the boys were employed progressively distributing spikes, bolts, tie plates, joint bars and anti-creepers; oiling rail ends, and fitting up the joint bars complete with RMC joint packings; spacing ties; nipping up ties for the spike drivers; assisting in unloading gravel ballast; raising track and shovel-tamping the first raise; final power tamping of the ties and lining of the track to finished surface and line; and final filling in and dressing of the ballast section.

Throughout the remainder of the summer, the boys on the Milwaukee will be employed primarily in routine maintenance operations as needed, including a number of large out-of-face surfacing projects, their camps being moved from place to place as the work progresses. There is no essential difference between the camps provided exclusively for boys and those assigned regularly to large extra-gangs of men on the road, but all camps, including bunk, kitchen, dining, commissary, shower cars, and power cars for supplying electric light and water, are overhauled yearly and are maintained to a high standard. All of the camps are operated by boarding companies, and while the boys and men pay for their meals on the same basis, some special consideration is given to the diet of the boys.

Recognizing its responsibility in the employment of so many boys, the Milwaukee gives special attention to the supervision of the boys, both in the day gangs and in its different boys' camps. In every case, the boys are entrusted only to experienced foremen who have the ability to get along with and to direct them. Where only a few boys are employed in an otherwise stable section crew, no special problem has been encountered, the foremen accepting the personal responsibility for their welfare. In the larger boy gangs, foreman supervision is selected with great care, and accompanying the gangs, to assist in maintaining proper deportment and good morale, is generally a man with whom the boys have been associated in school, frequently their athletic coach. These men stay with the boys throughout the working hours, travel to and from work with those boys living in nearby towns, and live night and day with those boys housed in camps. In each case, they are employed with ratings of timekeeper, material clerk or instructor, carrying the responsibilities of these particular assignments, as well as that of looking out for the general welfare of the boys.

Paid Going Wage Rates

In all cases, the boys are paid the prevailing rate of extra-gang laborers or section men for eight hours, depending upon the character of their employment, with time and one-half for overtime. In addition, all of the boys are provided with free transportation to and from work daily, and the camp boys are given periodic pass privileges to allow them to visit their homes weekends.

Safety is given major consideration in the employment of the boys, and all other factors are subordinated

to that end. Wherever employed, the safe conduct of the boys is put up squarely to the foremen in charge, who are supported in all of their activities by the roadmaster and other division officers. When first employed, and daily thereafter, the boys are instructed in safe practices and are cautioned against unsafe practices. Supplementing this, the coaches or other school representatives accompanying the larger gangs are on the alert constantly to detect and caution against any action on the part of the boys which might present a hazard, and the roadmasters of the different territories, in company with the district safety engineers, make periodic visits to the gangs to discuss safety with them. As a result of these measures, reportable injuries have been fewer among the boys in proportion to their number than among the older track men, and not a single reportable injury was sustained by any of the boys working on the nine-mile second-track job on the LaCrosse-River division.

The large-scale plan of employing teen-age boys in track work on the Milwaukee was conceived and has been encouraged by J. T. Gillick, chief operating officer of the road, and is being carried out under the general direction of Wm. E. Powrie, engineer maintenance of way. The actual employment and supervision of the boys are under the immediate direction of the superintendents, division engineers and the roadmasters on the various divisions.

What of Railway Materials

After the War?

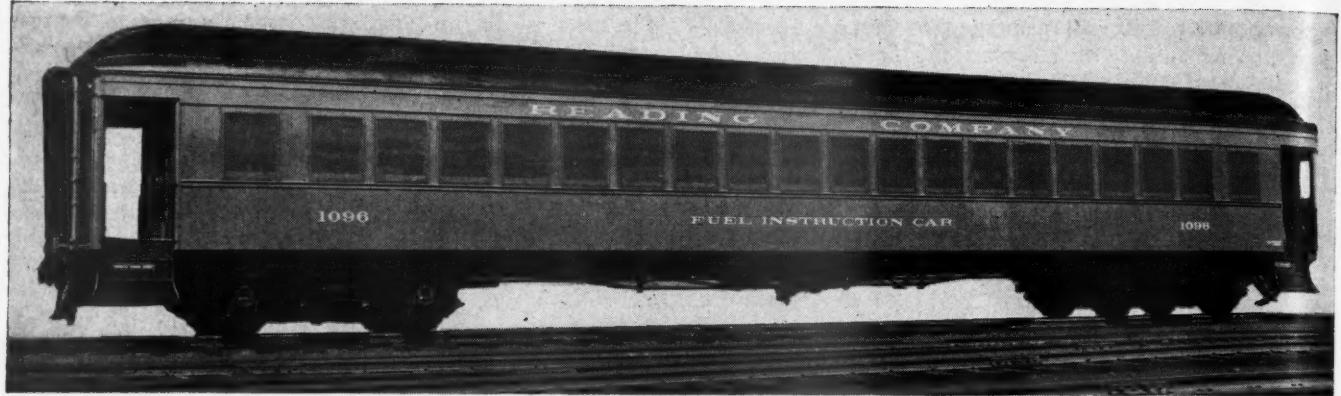
(Continued from page 272)

to a die-cast part in the single stroke of a die casting machine.

From the war has come as well tremendous impetus to the development of many materials that have been pressed into service as substitutes for the critical materials. For instance, glass containers, now so widely used for packaged goods, have been improved to such an extent that their weight is just half that of corresponding jars when this form of packaging was first introduced, yet they are strong and light enough for low-cost automatic handling and shipping. Progressive improvements also have been made in glass blocks designed as an insulating and light-transmitting material for building construction. Plastic fly screens that are strong and do not corrode are already on the market, while plastic bathtubs and floors that look like wood, yet do not require polishing, are on the way.

Many of the improvements, in the materials born of war, have not yet been entirely disclosed; many will not be fully available until after the war. Of these, many are related directly to the improved efficiency of air, bus and truck transportation. To be similarly useful to the railways will require a degree of foresight and ingenuity that they may be adapted effectively to specific railway needs.

However, material and equipment service records that have been and will have been established under grueling combat conditions, in many instances more severe than in railway service, should preclude the necessity of extensive additional tests before the new materials can be adapted effectively to help the railways meet the demands for better and more efficient freight and passenger transportation in the post-war period.



Education for Reading Enginemen

New fuel instruction car is equipped to deal with many other phases of locomotive operation—Of interest also to shopmen

THE tremendous increase in traffic which has resulted from the war has long since exhausted the roster of furloughed employees carried over from the depression and most roads have found it necessary to employ considerable numbers of new men in engine service. To meet the needs of this situation the Reading has supplied itself with a newly equipped fuel-instruction car which is now making its first tour of the road. Its equipment includes models and operating diagrams, some in color, of most of the important pieces of auxiliary equipment on a locomotive. Although major emphasis is placed on firing practice and the operation of boiler feedwater equipment, the car provides instruction material for dealing with nearly every phase of locomotive operation with the exception of the air-brake system. The latter is included in a separate air-brake instruction car.

What the Car Contains

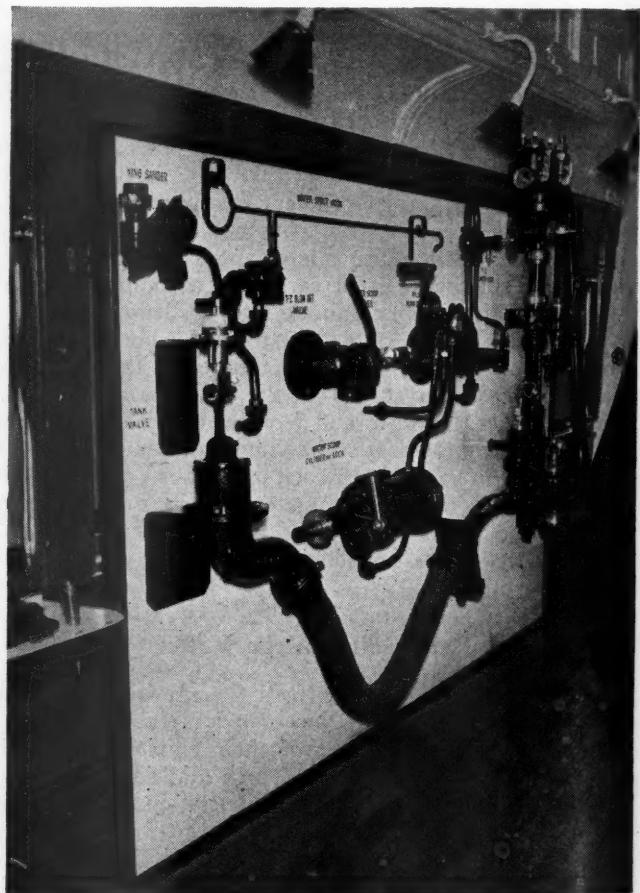
Across one end of the car is a full-scale dummy boiler back head on which have been placed the railroad's standard back-head mountings. These are all clearly labeled. They include the turret-valve board, water glasses, water column and gauge cocks, steam and air gauges, hydrostatic lubricator, sander valve, pneumatic fire door, the stoker gauge and the stoker manifold and control valves. Behind the fire door is located a stoker fire pot. This is piped for operation by compressed air so that the effect of the manipulation of the control valves can be observed by the movement of streamers attached at the firing-nozzle outlets.

A crown-sheet plug in the back head marks the horizontal projection of the highest point of the crown sheet where it can be compared with the bottom of the water glass and the bottom gauge cock. In a table at one side of the back head are set forth the standard differences in elevation between crown sheet and gauge cock of all the locomotive classes on the system.

Near the opposite end of the car an operating scale model of a Duplex stoker, including the boiler back head and cutaway top and sides of the firebox, is mounted on

the floor. This model is also piped for operation by compressed air.

Opposite each other, against the sides of the car, are two large display boards. On one of these is a complete non-lifting injector, including the water connections to



One of the Large Display Boards—Several of the Devices Are Piped for Operation with Compressed Air

the tender and the tank valve, and a top-mounted double boiler check with stop valves. Other devices displayed on this board are a tender water-scoop valve and operating cylinder, steam-operated cylinder cocks, pneumatic sander equipment, and boiler blow-off cocks. The water-scoop equipment, the sander and the cylinder cock are piped for operation by compressed air. On the panel across the car are mounted models of the several types of injectors in service on the Reading or Central of New Jersey locomotives, a double boiler check, and a hydrostatic lubricator model. A dummy reverse lever on this panel has a scale graduated in per cent cut-off for each notch in the quadrant from the center to the forward corner.

Other devices and parts are displayed on shelves at slightly below window-sill height. These include several models of force-feed lubricators, a steam-heat regulating valve, double-seat gauge cocks, and various details of other appliances such as injector combining tubes, and parts of boiler-check valves and blow-off cocks. There is a complete operating model of a speed recorder. There are scale models of a grease-lubricated driving box and of the types of front ends on Reading locomotives.

A small hand-operated model of a Walschaerts valve gear is arranged so that the effect of the reverse-lever position on the movement of the valve can be observed.

Some of the cutaway models are accompanied by operating diagrams in color. A number of such diagrams are also provided for other locomotive appliances for which there are no models. These include the superheater, the feedwater heater, and the exhaust-steam injector, and a boiler low-water alarm. Manufacturers' instruction sheets and booklets are available on the power reverse gear, feedwater heater, stokers, soot blowers, injectors,

and flexible pipe joints. The diagrams and instruction sheets are displayed in frames about the walls of the car and the booklets are found on a small table at one side of the car.

At the entrance end of the car are wardrobe and closet space. Against the inside end wall is an instructor's desk on one side and a desk for registration on the other. The car is not equipped for occupancy en route. Electric power for lighting and for operating the record player and projector is plugged in from an outside source, and compressed air is provided in the same way.

How the Car Is Used

At the present time the car is on tour, during which it will visit all of the terminals at which enginemen and firemen can be reached. This tour began on the Shamokin division which was covered during July. The car is now on the Reading division. In September it will cover the L. & S. division, and in October, the Philadelphia division. During November and December it will tour the Central of New Jersey.

The program provides regular class periods, including formal lectures, as well as informal discussions, time for questions and answers, and for the study and operation of the models by the men themselves. About one hour is required for the formal program. The lectures for this part of the program have been recorded and are delivered from double-face records by a phonograph with a magnetic pick-up which forms part of the regular equipment of the car. It has a recording attachment.

The first lecture deals generally with locomotive operation, stressing the importance of economy in the use of fuel, and of safe practices, and emphasizing the need for



Mechanical Lubricators and Front-End and Driving-Box Models Are Displayed Along This Side of the Car

the development of good judgment. This is followed by another short recorded lecture accompanied by slides, for which a projector and roller-type screen are provided. The screen is permanently installed just in front of the large boiler-head model at the end of the car. This lecture deals entirely with firing practice and is illustrated with a series of 18 colored slides. In the preparation of both of these lectures primary consideration has been given to the interests of the new men.

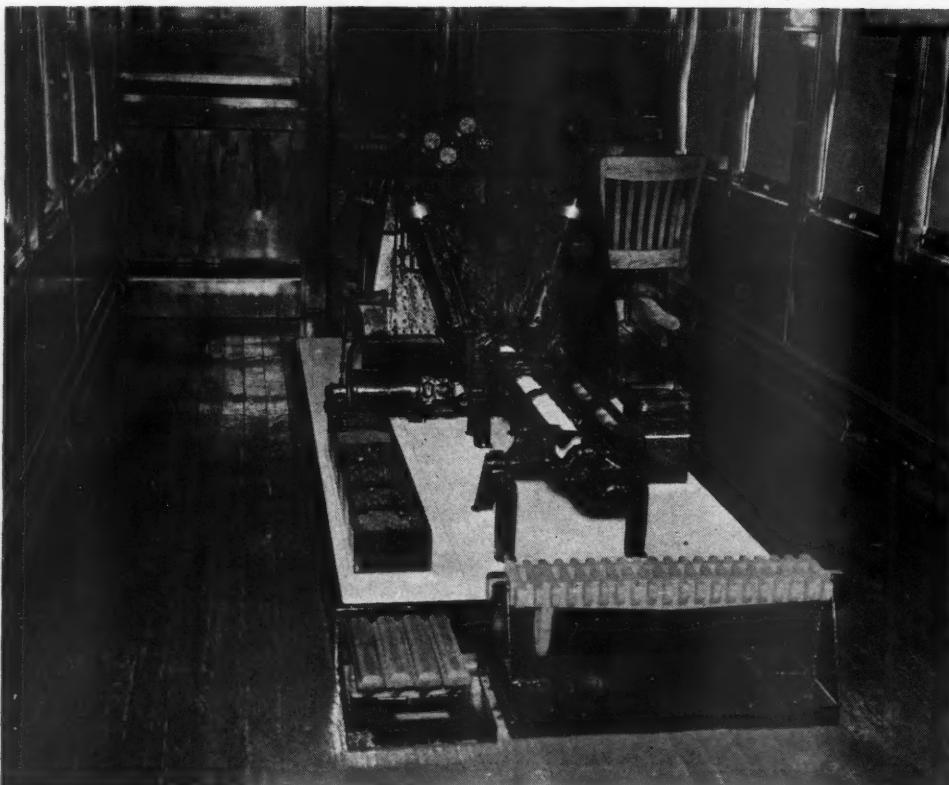
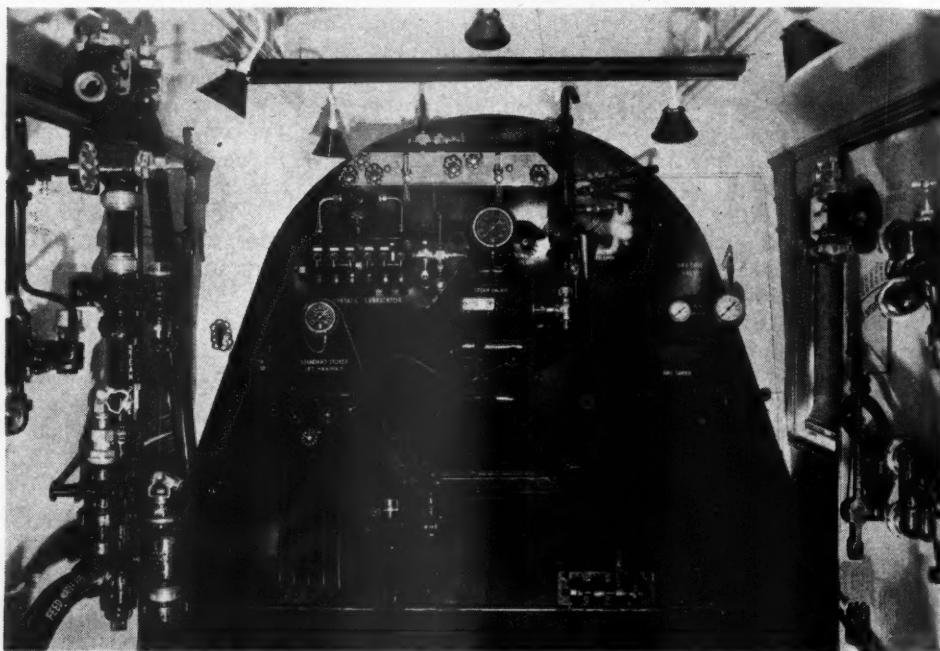
Following these two lectures the instructor in charge of the car calls attention to some of the more important devices on display, usually stressing some point pertaining to their operation or methods of dealing with possible failures on the road with which experience has demon-

strated that many enginemen are unfamiliar. This leads into a period of informal questions and answers on the part of some of the men, a few of whom may spend another hour or more if their own time and schedule of classes permit.

During a general tour, such as the car is at present making, it spends from one to four or five days at a terminal, depending upon the number of enginemen employed. Attendance is not compulsory, and no special effort is made to get men to visit the car when reporting for duty or at the ends of their runs.

Experience so far indicates that better results are obtained by notifying men who are not on duty that the car is in town, where it is located, and the schedule of classes.

A Complete Set of Standard Mountings Are Displayed on a Dummy Boiler Head Across One End of the Car — Stoker Manifold and Fire Door Are Operated by Compressed Air



A Scale Model of the Duplex Stoker —Grate Bars and Samples of Coal Mixtures Used on the Railroad Are Also Included in This Display

Then the men who report at the car can spend the time for a regular class and additional time for studying the exhibits in which they are particularly interested. All men in attendance are requested to register. The most desirable class size is considered to be from 12 to 18 men.

While the equipment and instruction program are primarily intended to meet the needs of enginemen, shopmen are welcomed and encouraged to visit the car whenever they have an opportunity to do so. The instructors are prepared to call their attention to helpful information concerning some of the devices which will be of assistance in dismantling them or diagnosing troubles encountered with them. This is particularly useful in cases of equipment with which some of the men are only occasionally called upon to deal.

Further Developments in the Program

With the completion of the current general instruction tour, it is proposed to use the car for a special instruction campaign to deal with the problem of tank heating during severe winter weather. The methods of operating tank heaters differ with various types of injectors in use on the Reading and Central of New Jersey locomotives. The result is that considerable confusion has developed in the minds of some of the men on whom dependence has to be placed to keep locomotives from freezing up.

Based on the attendance at the various points at which the new car has been stationed since it went into service, it is believed to have fully justified itself. Expressions of interest and approval on the part of the men who have attended the classes have been highly gratifying. At the present time preparations are being made for one further step which it is believed will increase the effectiveness of the time so spent by the men. This step is being taken in the belief that few men can listen to a speaker and retain clear impressions of more than a small part of what he has to say. A series of brief instruction sheets or pamphlets are being prepared for distribution to those who visit the car. Each of these will present the fundamental principles of operation of the various types of equipment involved in locomotive operation. It is the belief that supplementing the interest aroused by the lectures and the opportunity to study the working details of locomotive appliances with simple printed material which can be taken away from the car will add materially to the effectiveness of each.

* * *



Magnet Crane Handling Railway Scrap

Western Lines File Brief in I.C.C. Class Rate Case

FREIGHT RATE increases on farm products, minerals and forest products may become necessary in the West if reductions are made in the rates on manufactured articles, according to a brief filed on August 6, by the Western railways with the Interstate Commerce Commission as part of the commission's investigation of the class rate structure and the Consolidated Freight Classification, Nos. 28300 and 28310. Final hearings before the commission were concluded in Washington on April 1, after 5,000 pages of transcript and about 227 exhibits had been presented. Briefs were to be filed by June 30, but in May the commission extended the time one month.

In their brief, the Western lines cite a study made by the chief of the cost section of the commission's Bureau of Transport Economics and Statistics, which concludes that in 1939 the railroads carried products of agriculture, animals and products, products of mines, and products of forests at substantially less than full cost. Only manufactured articles and miscellaneous freight as a group yielded, the study indicates, revenues in excess of total costs. The railroads criticize the cost study as faulty, but it has not been questioned by the various political bodies seeking uniformity in freight rates.

"A number of deductions are obvious from this study," the Western carriers' brief states. "They are (1) that manufactured articles, which by their very nature are properly in the higher rate brackets, yield a higher proportion of profit to the railroads than do other groups; (2) that any distribution or redistribution of freight charges among commodity groups must be made with that fact in mind; (3) that freight charges must be distributed with respect to the nature of the commodity, competitive considerations, and other circumstances which serve to detach it from a cost basis; (4) that if the railroads are to survive, any serious impairment of revenue from manufactured goods and miscellaneous freight will have to be compensated by increases in the rates on the long list of products which, according to the cost study, are not yielding their commensurate proportion of revenue necessary to meet costs. Those who accept this cost study and insist that rates should be fixed accordingly can hardly challenge the possible consequence of their own formula in the event of its adoption."

Emphasizing that a uniform level of class rates in the various rate territories cannot properly be established unless there is a uniformity of conditions, the Western railways' brief shows that no such uniformity exists. In 1941, 69 per cent of the agricultural tonnage carried by rail originated on the Western lines. In that same year, 61 per cent of the rail tonnage of manufactured articles and miscellaneous freight originated on the Eastern roads. "Even if there were no other factors," the Western carriers' brief states, "these figures alone not only explain but render inevitable a dissimilar distribution of freight charges in and between the two districts in the interest of their economy and the preservation of their transportation systems."

"The Western railroads have neither the volume nor the same kinds of freight as the East. Their operating, traffic and revenue questions are quite unlike. Earnings of the Pennsylvania in the East contribute nothing to the support of the St. Louis-San Francisco in the Southwest. Each must find its support in the tonnage and

rates derived from conditions in its own territory. These conditions are not standardized and there is little present likelihood of their ever becoming so.

"The farmer is most concerned with rates upon his products, and these can give to a rate structure a shape unlike that fitted to a populous urban section. The rate systems must be unlike if the territories for which they may be constructed are unlike.

That is why uniformity of freight rates, expressed as an inflexible rule, is a delusion. Furthermore, freight rate uniformity would not contribute to the natural and proper development of the country as a whole because it would not serve the several sections according to their practical needs.

"Sound basic principles dictate that freight service cannot be sold by the yard at a uniform rate throughout the country; that the differences which inhere in the economic and transportation needs of the respective rate territories must reflect themselves in freight rate structures in order to promote the best interests of those territories and preserve their transportation system; and that the fixing of rates must be responsive to positive facts, as distinguished from abstractions.

"Uniformity is urged in the so-called interest of 'equal opportunity.' The truth is that, so far as freight rates may affect opportunity, nothing would so completely destroy equality of opportunity as a system of freight rates circumscribing markets by a mile-for-mile uniformity. If fruits and vegetables from California, the Rio Grande Valley of Texas, and Florida were placed upon a mile-for-mile rate adjustment, opportunities now open to both producers and consumers would be seriously curtailed. If equal opportunity is what the advocates desire, they have espoused principles which, applied generally, are best fitted to defeat it."

Emphasizing the vital interest of the various railways in the development of the territory they serve, the Western railways' brief stresses the fact that rapid and extraordinary industrial progress has occurred in both the Southeast and the Southwest under the present class rate adjustment. "In our judgment," the Western railways' brief states, "some of the complaining parties are more fanciful than realistic in their approach to this question. No interests are more desirous for the industrial growth of the Southwest and Western trunk line territories than are their railroads. But they cannot blind themselves to tried and familiar practices that enter into the establishment of business enterprises, nor agree that such practices can be set at naught and a wave of factory building be set in motion by a readjustment of class or any other type of rates. The proposal naively attributes to prices of transportation a miraculous power which they do not have.

"Interests pressing for a class-rate reconstruction for the greater part of the United States are urging, quite unconsciously, perhaps, that to the problems harassing the railroads and all other businesses there should be added the difficulties and perplexities which would follow a revolutionary remodeling of the class-rate structure. It would appear fair to suggest, with all respect for the governors and the political bodies appearing in this case, that the hundreds of thousands of business concerns which pay the freight charges and are directly affected might find themselves embarrassed and disadvantaged by a program sought to be made for them without their participation. The absence from this case of actual payers of freight is noticeable. It may also be mentioned that not a single bureau or state witness from the West testified that he had ever consulted shippers and receivers of freight—those who have a direct money

interest—or that he spoke with the support of persons immediately concerned in the level or relationship of freight rates."

The brief also replies in some detail to the argument advanced that the proportion of our people engaged in the production of staple agricultural commodities and other raw materials is greater than is necessary to serve the nation's needs, and that this broad occupational maladjustment takes the form of an overdependence on raw materials in the South and West. "The proponents of these views," the Western railways' brief states, "ask that the Interstate Commerce Commission assume the role of economic arbiter to reshape and control the economic structure of the country. It is not believed by these railroads that the commission or any other existing body has been empowered to exercise such authority over the affairs and lives of 130,000,000 people.

Social Regeneration Sought

"The proponents, while admitting that freight rates are not solely responsible for the economic maladjustment, seek a manipulation of freight rates as a contribution to their program of social regeneration. If the freight rates were not themselves the cause, it is not clear how their readjustment can correct, even in part, the national economic situation of which these proponents complain.

"To the extent that they ask for a readjustment of rates, their efforts constitute a demand that the commission require the railroads to grant a subsidy to finance an adventure in experimental sociology. The railroads, it need hardly be said, have no control over the discretion, investments or energies of the American people, and they cannot direct such forces by a freight rate. Nor does the law grant the commission authority to embark upon an expedition in economic knight-errantry.

"It is apparent that the argument for a social scheme which would reduce the number of agricultural producers and thereby alter the present economic and occupational setup is directly opposed by established public policy; that it does not conform to the ideas of various commissions of agricultural states. It may be questioned whether such blueprints and abstruse dogma can stand against the hard, cold facts of a present food shortage in this country and the world, and the real and pressing problems of future food supplies which are now troubling the government of the United States and its allies."

Finally, the carriers contend, this is no time for far-reaching changes in the present freight-rate structure. "The war is distorting the nation's economic and commercial life, absorbing the major efforts of all transportation forces and facilities, altering the currents of traffic, diverting factory products from peace-time commodities to war-time specialties, suspending the manufacture and distribution of civilian goods, inflating prices and throwing American life generally into a state of confusion whose ultimate pattern cannot be foretold by any living person. These are not changed conditions, as one would employ the phrase in considering a freight rate adjustment. They denote rather the end, for the present, of conditions upon which any permanent freight rate adjustment can be built judiciously or with confidence.

"In their reaction to the proposals offered in this proceeding, the Western railways are not obstinate or obstructive. On the contrary, they are motivated by considerations of prudent rate-making in both their own and the public's interest. They see nothing either constructive or practical in the synthetic rate systems advocated."

War Control of Rates in Britain

**Peacetime machinery superseded by wartime agency
which has, however, permitted 16½ per cent increase—
Government freight moved at flat rate per ton**

By Dr. G. Lloyd Wilson

*Professor, Transportation and Public Utilities,
University of Pennsylvania*

THE Minister of War Transport of Great Britain exercises comprehensive control over the rates and charges of transportation industries. By orders of the Minister, increases may be made in rates and charges of all carriers only to the extent deemed necessary by the Minister to assure their continued operation. Excessive increases in the carriers' rates are, in like manner, prevented by the Minister.

Advances in the carriers' rates or charges are authorized by the Minister only when the carriers demonstrate them to be strictly necessary. Increases in rates and charges, ordinarily within the carriers' powers or allowed under statutory authority, are controlled by the Minister under wartime powers. This aspect of rate control is exercised by the Minister of War Transport as part of the policy of the government in the stabilization of prices to prevent inflation.

Limits have been fixed beyond which the rates and charges of transportation enterprises may not be fixed under any circumstances. At the present time, railway rates are stabilized at a general level of 16½ per cent above the prewar level. A general increase of 10 per cent in freight rates was permitted by the Ministry of Transport effective May 1, 1940. This was followed by a request by the Railway Executive Committee for a further general increase of 6.8 per cent later in the same year. This request was referred to the Consultive Committee to the Minister of Transport for decision. An average rate increase of approximately 6½ per cent was granted effective December 1, 1940. Since that time there have been no increases in freight rates or passenger fares in Great Britain.

Inland waterway or canal carriers' rates are ordinarily not subject to statutory limitation upon rate-making, but the waterway carriers are now required to notify the Minister of War Transport of any increases in their charges. The Ministry has authority to prevent excessive increases by the simple procedure of an order disallowing them.

The charges of dock enterprises are subject to statutory limitations, as are the charges of electric railways and motor transport carriers.

The fares of intercity motor passenger transport carriers are fixed by the conditions attached to the licenses granted them by the Ministry of Transport through the Regional Transport Commissioners, as conditions precedent to their engaging in operation. Increases in the fares of these carriers must be approved by the Regional Transport Commissioners acting on behalf of the Minister of War Transport. The rates of the highway carriers were not subject to regulation prior to 1940. Their charges are now subject to control by the Minister of War Transport by order restricting charges to a maximum

of not more than 7½ per cent in excess of those in effect on October, 1940, unless the carriers are able to justify larger increases. In cases of disagreement with respect to highway transport rates, the Regional Commissioners acting jointly with representatives of the highway carriers, trade and agriculture, known as Assessors, have jurisdiction and authority to determine disputes.

Government Freight Moves on Contract Rates

The Ministry of Supply co-operates with the Minister of War Transport to conserve transportation facilities through the planning of seasonal movements of traffic and zoning of distribution. By advanced planning of the movements of traffic, it has been possible to realize large savings in transportation facilities.

Manufactured stores, including arms, ammunition, equipment and components, controlled by the Ministry of Supply, are handled through contracts placed on an "ex works" basis so that all the transportation charges are paid by the government. The Transportation Department of the Ministry of Supply, either directly from headquarters or through area transportation officers, makes necessary arrangements on behalf of contracts for the forwarding of these goods to destinations specified by the Production Branches. The Transportation Department decides the form of transportation to be used. Small consignments are forwarded by passenger trains when such trains are available and the need is urgent. Urgently needed shipments of bulk commodities are moved by road transport in order to insure prompt collection and delivery services. The Transportation Department of the Ministry of Supply follows the shipment through in order to insure fast transportation and prompt delivery.

The Ministry of Supply negotiates with the railway companies for percentage reductions from the standard rates. The amount of the reduction varies with the class of traffic. These rates are available to all of the contracting government departments.

"Exceptional" or "Agreed" Rates

Prior to the outbreak of the war, the British government and government contractors were allowed special rates on certain types of traffic. These arrangements were continued during the early period of the present war. As the volume of production of war materials increased and new factories were brought into production, it was found that the amount of clerical work involved in preparing and examining the claims of the government and government contractors for special rates reached such proportions as to be a burden upon the government, the

contractors and the carriers. The simplified system mentioned above was substituted for this plan of government rate discounts.

The present basis of rates is a flat rate per ton irrespective of the classification of the freight or distance transported. These rates are made for each government department and are based upon the traffic for one month based upon the simplified scale of rates mentioned above. A representative flat rate regardless of the distance or type of traffic is 25 shillings per ton. Identical rates are not necessarily applied to each government department. They vary from department to department, depending upon types of traffic, distance, and other factors. The flat rates are not limited to rail haulage but cover a number of other services, such as: cartage, cranage, labeling, loading, and unloading, hire of or tarpaulins and other services. On the other hand, certain services are not covered by the flat rates. These include demurrage, siding rental, hire of sacks or bags, warehousing and labor incidental thereto.

Simplification of Billing

The elimination of consideration of class of traffic and distance on traffic hauled for various government departments makes it possible greatly to simplify the billing of freight charges on government shipments. The shippers in one operation make out the "consignment notes" or bills of lading and also the documents necessary for railroad accounting and invoice purposes. The so-called carrier note consists of five parts:

1. The railway account which is returned summarized as an account against the Ministry of Supply;
2. The railway consignment note or bill of lading which is retained at the originating station;
3. The railway invoice which travels with the freight to the station of destination;
4. The advice note which is sent to the consignee notifying him of the shipment of the goods;
5. The consignor's copy which is retained by the shipper as his record of the transaction.

As a general rule, parts 4 and 5 of the new consignment note are for the domestic use of the government departments and only the first three copies are handed to the railway company. In this case the advice note, which is sent to the consignee, is a separate document, the ordinary advice notice of the railway companies. Some government departments, however, also hand to the railways' agents parts 4 and 5. Where this is done, these copies are returned to the sender by the forwarding station with the weights amended, if this has been found necessary. Moreover, part 1 is actually returned to the respective government department involved in the transport, and not necessarily the Ministry of Supply.

Large Savings in Accounting

This arrangement went into effect on April 1, 1942, and is said to have resulted in great savings of manpower on the railways and in the government departments concerned with accounting for freight shipments and charges.

The consignment notes or bills of lading used by the government in connection with highway services are issued in triplicate. The original and duplicate copy are given by the shipper to the driver of the truck. The signature of the consignee is obtained by the transport company on the original document and the duplicate is given by the delivering motor carrier to the consignee. The triplicate copy is retained by the consignor. The

Transportation Department of the Ministry of Supply agrees with the carriers with respect to the rates to be charged for these services. These "agreed" rates are noted upon the road haulage notes or bills of lading which are returned to the transportation department of the Ministry of Supply with the motor carrier's account for certification and payment.

Import Freight Charges

Freight charges on import shipments of manufactured goods for the Ministry of Supply are paid by the Transportation Department of the organization. As a rule, the freight and forwarding charges on raw materials are handled by the Raw Materials Controls of the Ministry of Supply. Forwarding agents have been appointed to handle the clearance and forwarding of import shipments, including the payment of port charges, port dues, and other incidental charges. These charges are reclaimed at cost from the Transportation Department of the Ministry of Supply. The transportation of the import goods from the ports to destinations are covered by government consignment notes or bills of lading and the charges upon such shipments are paid to the carriers by the Transportation Department.

War and Peace Rate Control—a Contrast

A brief resume of the method of control of railway rates in Great Britain before the war serves to emphasize the differences between the old system and the wartime arrangements.

The Railways Act, 1921, which provided for the consolidation of the British Railways into the four present regional systems, provided also for the establishment of the Railway Rates Tribunal. The principal function of this Tribunal was to authorize a schedule of freight rates which were to become the standard rates of the British railways, and from which no variation, either upward or downward, was permitted, unless by "exceptional" rates, or as fixed by the Act. All exceptional rates were required to be reported to the Tribunal within a prescribed time limit, fixed generally at fourteen days, of the effective dates of the rates. An exceptional rate of less than 5 per cent or one of more than 40 per cent below the standard rate could not be put into operation without the prior consent of the Railway Rates Tribunal.

The assumption of control by the Minister of Transport resulted in the jurisdiction of the Railway Rates Tribunal over the general level of rates being suspended for the duration. It is the government which is now responsible for adjusting charges to meet variations in operating costs, and other conditions arising from the war, and not the Railway Rates Tribunal. The jurisdiction of the Tribunal in other matters, however, continues unchanged. It retains control to deal with the granting of "exceptional" rates on commercial traffic, or reductions in existing exceptional rates and with various other matters including the classification of freight.

The official status of the Railway Rates Tribunal is probably best defined in a statement made by the late Captain Euan Wallace, then Minister of Transport, in the House of Commons in March, 1940. He stated:

"It is not proposed, in present circumstances, to abolish the Railway Rates Tribunal, nor to limit its jurisdiction, except in regard to the general level of charges and, in very special circumstances, the level of particular charges. Such limitation as is necessary will be effected by Regulations made by Order in Council under the Emergency Powers (Defence) Act, 1939, or by orders made under such regulations."

There has been no change in the position of the Tribunal since that date.

In view of the fact that the question of railway charges was considered to be an important element in the general price structure and that increases would have an adverse effect on the government's efforts to stabilize wages and prices, the whole question of the financial relationship between the railways and the government was considered anew and in October, 1941, a new agreement was concluded.

In essence, the new agreement provided that the government, as compensation for its control of the railways, would pay the owning companies a fixed rental of £43,000,000 per annum to be divided among them as specified in the agreement. All railway revenues and expenses are pooled and the net result of the pool is accounted to the government. The government will be the beneficiary of any surplus and will make good any deficit. The question of any increase or decrease in the general level of rates and fares is thus a matter having no effect on the earnings of the owning companies, and rate control, in being exercised by the government, does not affect either favorably or adversely the return to railway owners. In practice, the question of rates is determined by the Chancellor of the Exchequer and the Minister of Transport. There has been no change since that of November, 1940, when, as the result of an inquiry held in August, 1940, the Minister of Transport authorized the increase of 10 per cent granted in May, 1940, to be replaced by one of 16½ per cent, operative from December 1, 1940, referred to previously.

Communications . . .

Strong Track

NEW YORK

To THE EDITOR:

In looking over some of my old files I ran across the enclosed photographs [reproduced herewith] of a washout on the Rio Grande Southern on Friday, August 13, 1909.

I suppose the hoghead and the tallerpot must have figured that Friday the 13th was not an unlucky day for them on this occasion. This was on the narrow gauge of the old Rio Grande

Southern and they must have had good track bolts in their angle bars to hold up even this small power.

A. N. WILLIAMS,
President, Western Union Telegraph Co.

Misunderstandings About The Soldier Furlough Travel

BUFFALO, N. Y.

To THE EDITOR:

Many of the men in uniform who travel over the railroads while on furlough are men who have never previously used that means of travel. Obviously the railroads are interested in these men, for they are the postwar civilian travelers; and whether their postwar travel will be by rail or by other means of transport depends on their impressions now.

To help these men get home, the railroads offer attractive roundtrip rates, and I have never yet heard any of these passengers complain that the rates were too high. It certainly would seem to anyone familiar with the railroads that all these men have a good idea of the conditions under which furlough rates are offered, whether acquired by conversation with their fellow-soldiers or by inquiry from railroad employees. Such is most certainly not the case, unfortunately.

I could quote example after example to show that their knowledge of furlough travel is by no means universal. A few will suffice:

One man was confused by the refusal of a T. H. & B. conductor to accept a C. N. R. ticket. He said that he had boarded an N. Y. C. train at New York with a D. L. & W. ticket (return portion) and was carried by the conductor with a warning to be more careful in the future. He had believed that all roads would honor tickets of paralleling lines.

Many Canadian soldiers visiting the border cities (e.g. Buffalo) get C. N. R. tickets at Toronto (where the ticket windows for each road are separated), use T. H. & B. timetables and miss their last train of the night by only a few minutes.

Parents are quite resentful when they are told that their sons cannot buy a berth on a furlough ticket.

I have spoken with several men who were astounded to learn that they would have to pay about as much to return to camp as the whole roundtrip would have cost; they had paid a fair amount of money for gasoline and meals for drivers who had given them rides, thinking they were saving money. After explanation of the reasons for making furlough rates roundtrip rates, these men are usually convinced that the regulation is



A Washout With Dangerous Possibilities, But Not Serious Consequences

reasonable; but they all wish they had known that before leaving the camps.

All in all, I am convinced that there is considerable misunderstanding of furlough rates. In fact, I have even encountered a few men who were unaware that there were any special reduced fares at all!

I have tried to find any reference to furlough fares in railroad literature. The only reference I can find is in the S. P. timetables.

I suggest, therefore, that some railroad association—perhaps

the A. A. R., or some regional group—publish a small booklet explaining in lay terminology the fundamentals of railroad furlough travel, for distribution by draft boards. It would be an investment in goodwill and in future travel after the war. Admittedly it is rather late—most uniformed men have now been in service long enough to know all this. Nevertheless, mistakes of the sort I have enumerated still occur every day.

WILLIAM C. KESSEL,

Vice-President, Buffalo Chapter
National Railway Historical Society

Economics and Politics in Engineering Terms

People alert enough to know that their well-being depends upon the retention of free enterprise will be able to defend and improve the effectiveness of that system in proportion as they understand why it is the only system which *can* maximize economic production. An explanation of the workings of the system of economic freedom, especially as practiced until recently in America, in *engineering terms* and hence more readily comprehensible to technically-trained people than the usual philosophical treatise, has recently appeared from the pen, paradoxically enough, of a woman.* This book is not, however, merely the translation of economic and political philosophy into language understandable to those not familiar with the phraseology of that branch of knowledge; it sheds, besides, a great deal of new light in obscure corners which have never before been illuminated.

Both the novice in political and economic philosophy and the well-read student will, therefore, find enlightenment and stimulation in this book. If the work should reach the audience who could read it with profit and interest, New Dealism, socialism and other such blights on the country's prospects for the future would quickly and happily be relegated to history.

How to Maximize Production

The author invites us to consider the economic system which has performed for Americans such a miracle of physical production—as a long and elaborate circuit of energy. It is *physical goods* which move in this circuit, not just “money,” and every free man composing the circuit is a consumer, producer and transmitter of goods. As an oversimplified example, we are asked to “imagine the farmer, the miner, the steel maker, the tractor manufacturer, etc., standing in a circle, each passing his own product to the right, in one direction; while money is passed back on the left in the opposite direction, making payment at each transfer.”

The physical energy which constitutes the circuit is never in the money; it is in the goods and the transport facilities. Further, the intervention of man in the circuit introduces a factor by which more energy is produced (or picked up) en route than is consumed (lost or dissipated).

A country rich in production, such as the United States, is obviously one where an energy circuit carrying a heavy and variegated load (of physical goods) has been built up. How is such a circuit attained? Clearly it has arisen because political and social surroundings have been established here which have induced as many individuals as possible, who compose the circuit, to add more and better goods to the circuit than they take from it. They can do this in several ways, but chiefly by exercising ingenuity and inventiveness to deflect the energy they receive into ever more productive channels (i. e., capturing and putting to effective use more and more inanimate matter). Only free men in the productive circuit can thus increase the lading the circuit carries—because only free men, not slaves or political hirelings, have either the incentive or the liberty to use the power that comes to them in a different and more productive way than it has been used hitherto; only free men have the freedom of choice, by the wise use of which improvement in production can be effected.

Individual Freedom Needed—or Production Must Slump

This concept may, perhaps, not be easy to grasp from the brief outline in the foregoing—but the author makes it clear enough and, once understood, it carries the key to an understanding of

how national economic well-being may be attained. There *must* be freedom of contract, freedom of choice, freedom from coercion, freedom from expropriation, throughout the whole economic circuit—or the individuals who compose the circuit will begin to deflect more goods from the circuit than they pass along, and the circuit will lose power and gradually disintegrate.

Government—i. e., politics and politicians—cannot add anything to the circuit of energy which constitutes economic strength. At best they can constitute a protective frame-work of non-interference within which the circuit can function freely, with its own inherent energy. At worst, politics can tap the circuit until its force is destroyed and the productive units cease functioning.

The author proves her thesis not only deductively and by contemporary examples, but also from history. The Roman empire comprised an energy circuit, such as the one described, which failed through faulty politics. “In the energy system comprised in an exchange of goods, the producers and processors have to get back enough to enable them to keep on producing and working up the raw materials and to provide transport. In the later Roman empire, the bureaucrats took such a large cut, at length scarcely anything went through the complete circuit. . . .

“Effort from which there is no net return automatically must cease. They [i. e., the Roman producers] consumed their own products instead of putting them into exchange.” Rome was not conquered by the barbarians. These invaders simply moved into a virtual vacuum already existing. The producers had already been “beaten by the bureaucracy” before the barbarians came in.

A Yardstick for Measuring Political Policies

Mrs. Paterson applies her analysis to a great many specific contemporary political and economic developments, affording a reasoned critical judgment on important public questions about which definite opinion—and not the prevalent ignorant tolerance—is long overdue. Better than that, though, she affords her readers a comprehension of their own, from which they themselves can form their own intelligent opinions on any and all political policies which bear on economic life.

Consider, for example, Henry Wallace and his recent canting contention that he and Mr. Roosevelt are concerned to put “human rights ahead of property rights”—much to the chagrin of their opponents, whom he anathematizes as “American Fascists.” Any reader of Mrs. Paterson’s book would know that the right to private property *is* a human right—and that there can be no other human rights of any consequence without it; because only by owning tangible property does a man have any *real* security, and only because people can and do own property can they be free and not slaves, and hence able to contribute to the “energy circuit” upon which the nation’s wealth and strength depends. Mr. Wallace rightly condemns high-tariff industrial monopolists, but he lacks the candor to admit—with his political tinkering with the economic machine—that his goal is the exact equivalent of theirs; namely, to syphon off from producers for the benefit of wastrels a substantial part of the surplus which producers contribute, thus discouraging them from further creative effort.

Those who read this book with care will heartily agree with the author in her conclusion: “Whoever is fortunate enough to be an American citizen came into the greatest inheritance man has ever enjoyed. He has had the benefit of every heroic and intellectual effort men have made for many thousands of years, realized at last. If Americans should now turn back, submit again to slavery, it would be a betrayal so base the human race might better perish. The opportunity is equally great to justify the faith which animated that long travail, and bequeathed them such a noble and happy heritage.”

* The God of the Machine, by Isabel Paterson. Published by G. P. Putnam’s Sons, N. Y. Price \$2.75.

Railroads-in-War News

Railroads Get Better Allotments of Steel

Allowed 1,380,000 tons for fourth quarter; to build more freight cars

The War Production Board's Requirements Committee has allocated to the transportation industry 1,380,000 tons of carbon steel for the fourth quarter, an increase of 180,000 tons over the 1,200,000 tons allocated for the third quarter. This was appraised as a "substantial increase" in an August 9 announcement from the Office of Defense Transportation which is claimant agency for transportation under the WPB's Controlled Materials Plan. ODT had asked for an allotment of 1,590,000 tons.

The ODT statement said that the amount of material sought for the fourth quarter for the production of locomotives, freight cars, buses, street cars, trucks, and trailers was granted, while material was also provided for a number of tugboats, towboats and barges. This means that the cessation in freight-car production which was feared after the announcement of the third-quarter allocations will not come to pass.

The fourth-quarter allocation contemplates steel for an additional 9,500 freight cars, although most of them will not be completed until early in 1944.

Meanwhile, however, ODT had found it possible to provide for the production of an additional 5,801 new cars this year out of the steel allocated for the third quarter but not used for its original purpose. This was made known in an August 11 announcement, which pointed out that the 1943 production will thus total "upwards of 32,000 new freight cars," i.e., the 26,000 originally authorized, plus the 5,801, plus such portion of the fourth-quarter's 9,500 that may be completed before the end of the year.

The breakdown of the 5,801 by types is as follows: Box, 2,724; gondola, 262; hopper, 2,150; refrigerator, 300; flat, 365. They will be built by American Car & Foundry Company, 1,402; Bethlehem Steel Company, 500; Fruit Growers Express Company, 300; General American Tank Car Company, 1,100; Greenville Steel Car Company, 165; Mather Stock Car Company, 62; Mount Vernon Car Manufacturing Company, 200; Pullman-Standard Car Manufacturing Company, 1,092; Chicago, Milwaukee, St. Paul & Pacific shops, 300; Chicago, Burlington & Quincy shops, 330; Reading shops, 200; St. Louis, Southwestern shops, 150.

In addition to the steel for new equipment, the railroads will receive from the fourth-quarter allotments 400,000 tons of replacement rail, 240,000 tons of track accessories, and 300,000 tons of other maintenance materials. The ODT statement recapitulates the rail program to show that the carriers will have received a total of 1,527,000 tons of new replacement rail during the entire year 1943 as compared with 1,300,000 tons in 1942. Also, the statement points out that along with the carbon steel there were allocated for use with it "requisite amounts of alloy steel, copper, and aluminum." With respect to railroad construction projects, the WPB granted what ODT asked for; and "particular attention" will be devoted to those "in the Western defense area."

ODT's claimant-agency duties were enlarged this quarter when it was authorized to claim materials for automotive replacement parts. This was formerly a function of WPB's automotive division. The allotment in this category was 88,000 tons of carbon steel and related parts.

Another recent development in the equipment field was information revealed at WPB that the 1944 program of steam locomotive production contemplates the building of 4,000 engines, 2,500 more than this year's program calls for. The increase will not mean more locomotives for domestic service, for the addition production will all be assigned to the Army and the Lend-Lease Administration for service abroad. In order to permit them to meet the stepped-up schedules, the locomotive builders will be taken out of tank production, thus marking the first big reconversion step in the railway equipment field.

July Employment 5.4 Per Cent Above July, 1942

Railroad employment increased 0.44 per cent—from 1,381,560 to 1,387,654—during the one-month period from mid-June to mid-July, while the July total was 5.4 per cent greater than the comparable 1942 figure, according to the latest summary of preliminary reports prepared by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics. The index number, based on the 1935-1939 average as 100 and adjusted for seasonal variation, was 133.1 for July as compared with June's 133.5, and July, 1942's 126.3.

July employment was slightly above June's in all groups except train and engine service, which was down 0.4 per cent. All groups, save maintenance of way and structures (down 1.4 per cent), were above July, 1942. The largest increases over the previous year were: Yardmasters, switchtenders and hostlers, 10.95 per cent; professional, clerical and general, 10.01 per cent; transportation, other than train, engine, and yard, 9.56 per cent.

Reach Settlement in Non-Op. Wage Case Parties arrive at understanding which must be approved by the "government"

An understanding for settlement of the controversy involving wage-increase demands of non-operating railroad employees was reached at the August 7 sessions of last week's Washington, D. C., conferences between representatives of the 15 non-operating unions and the three regional carrier conference committee. Details of the settlement were not made public, pending submission of the proposed agreement to the "government"; but it is reported to involve giving the different employee groups varying adjustments which would increase the annual wage bill about as much as would the straight eight cents per hour increase recommended recently by a National Railway Labor Panel emergency board and set aside by Economic Stabilization Director Fred M. Vinson.

The emergency board, headed by Dr. I. L. Sharfman, estimated that the adjustment it proposed would cost the railroads about \$204,000,000 a year. Director Vinson's stay order, noted in the *Railway Age* of July 10, page 57, undertook to remand the case to the emergency board, but Dr. Sharfman took the position that the board had ceased to exist and that he was without authority to reconvene it. Thus came the impasse which resulted in union preparations for a strike ballot, which, however, was not actually ordered, the parties in the meantime having agreed to the further conferences of last week.

The brief announcement issued following the close of those conferences on August 7 read as follows: "The three regional carriers' conference committees and representatives of the 15 cooperating railway labor organizations today have reached an understanding for the settlement of the wage increase requests of non-operating railway employees. They hope that this disposition of the dispute will be acceptable to the government."

To become "acceptable to the government," the agreement presumably will have to win the approval of Director Vinson who has rejected the straight eight-cent increase. Thus the reports that the settlement contemplates varying percentage adjustments for the different non-op groups. While D. P. Loomis, executive director of the Association of Western Railways, and George M. Harrison, president of the Brotherhood of Railway Clerks, who acted as spokesmen for the parties, would say

nothing specific as to procedure, it was generally expected that the agreement would be taken to President Roosevelt and it is understood that arrangements for such a move were being made.

Mr. Harrison suggested to reporters present that they would be doing a public service if they based their stories of the understanding on the official announcement without trying to "blow up any balloons." "This is a national situation," he added. "The country is at war, and we're trying to make a contribution in this manner by arriving at what we consider the solution." He and Mr. Loomis took the position that it would be improper and discourteous to reveal the details of the agreement before submitting it to the "government."

Mr. Harrison did reveal, however, that the issue of the 40-hour week, i. e., time-and-one-half for the last eight hours of the 48-hour week worked by railroad employees, was not involved in the settlement; nor was it discussed at last week's conferences. Asked whether it would be the subject of future conferences, Mr. Harrison replied that he could not speculate about it. The 40-hour week issue was not before the emergency board, but President Roosevelt has recently indicated that he favored paying railroad employees time-and-one-half for weekly hours in excess of 40.

In replying to another question as to the effect of the settlement on the proposed strike ballot, Mr. Harrison said: "We met and decided to put out the ballot if we could not reach some satisfactory disposition of the matter. We are not going to quarrel with people we've found peace with."

Army Cuts Its Paper Work

Development of a new War Department shipping document that utilizes one basic form for every billing, checking, tagging, inventory, and receiving operation in the entire movement of military supplies from depots in the interior of the United States to overseas ports has been announced by the Army Service Forces. With minor changes, the same forms will be employed by the Army Air Forces.

It was explained that the new document reduces the 10 forms heretofore customarily required for all shipments to one three-part form, and thus increases the productivity of checkers at supply depots and ports of embarkation, expedites the movement of railway and ocean freight, and aids in the rapid and accurate disposition of war material as it is unloaded overseas.

Merchandise Containers on War Duty in England

Containers formerly used for the transportation of household goods are now being used by the London & North Eastern (England) as canteens for feeding railway men engaged in repairing damage caused by enemy action or on other "rush" jobs away from home.

The canteens, completely equipped, are stationed at strategic points ready for im-



The L. N. E. R.'s Mobile Canteen

mediate loading onto railway flat cars or highway vehicles for speedy transportation to the points where needed.

The converted containers are 17 ft. long and carry 50 gal. of water in two 25-gal. tanks. Lighting, heating and cooking are provided for by "calor" gas, in incandescent burners, stoves and gas rings. Boilers of 10-gal. capacity and portable thermos urns of 5-gal. capacity are provided for tea and soup. The latter can, if necessary, be carried from the canteens directly to the men, although the usual practice is to serve the food from the canteen over serving counters on either side of the container. It is reported that, given reasonable time, a meal can be cooked to serve 120 men in 1½ hours.

No Additional Train Service to Winter Resorts

No supplemental passenger train or sleeping car service, in addition to present schedules, will be authorized for operation next winter to Florida, the Gulf coast, Arizona, California, or other winter resort areas, the Office of Defense Transportation announced August 9.

General Order ODT 24, under which passenger schedules were "frozen" as of the week ended September 26, 1942, re-

mains in effect, it was pointed out, and under its provision additional trains or sections can be put in service only under special ODT permits. The continued heavy demands of military and essential civilian traffic on the limited supply of passenger equipment will prevent the operation of supplemental winter trains, it was explained, and also will make it impossible to assign additional sleeping cars for either regular or seasonal service on trains now operating in the winter resort areas.

It was pointed out also that the ODT last November authorized the operation of an additional daily train between New York and points in southern Florida over two separate routes and subsequently approved the operation of an additional daily train between Washington, D. C., and Florida points, all to help the railroads handle increased passenger traffic resulting from the concentration of military, naval and war industrial establishments in the Southeast. These three additional trains have remained in service since they were first scheduled and will continue to be operated, but no other supplemental trains, in addition to those in operation when General Order No. 24 became effective, will be authorized for service to resort points, it was said.

Materials and Prices

Prices

Bituminous Coal—Two bituminous coal regulations were amended by Amendment No. 14 to Maximum Price Regulation No. 189 (Bituminous Coal Sold for Direct Use as Bunker Fuel) and in Amendment No. 57 to Maximum Price Regulation No. 120 (Bituminous Coal Delivered From Mine or Preparation Plant), effective August 10, to make the adjustable pricing provision in them uniform with the standard form prescribed for all applicable regulations.

Under this uniform provision, any person may agree to sell at a price which can be increased up to the maximum price in effect at time of delivery, but no person may, unless authorized by OPA, deliver or agree to deliver at prices to be adjusted upward in accordance with action taken by OPA after delivery.

This particular authorization may be given by OPA when a request for a change in maximum prices is pending, but the authorization will be given only if it is necessary to promote distribution or production and if it will not interfere with the purposes of the Emergency Price Control Act of 1942, as amended.

Under these amendments, OPA pointed out that invoices sent out by producers and distributors of bituminous coal as well as suppliers of bunker fuel may not, in the absence of such authority, state that the price may be adjusted retroactively for mine price increases or for any other reason.

Denaturants—Allocation Order M-340, issued July 26, designed to assure a supply of denaturants for anti-freeze alcohols during next winter, places denaturants under allocation by WPB. There are five denaturants specified by the Treasury Alcohol Tax Unit. One of these, methyl isobutyl Ketone, has been under allocation. It has been found that when one item is placed under allocation, the tendency is for others to become scarce. Hence, all now have been placed under Miscellaneous Chemicals Allocation Order M-340. The four denaturants affected are ST-115, Dehydro-O, G. C.-78, and acetaldol.

Elevator parts—Interpretation 1 of General Conservation Order L-89, as amended, was issued July 29 by the War Production Board to clarify certain points. The order exempts from the necessity for authorization on Form PD-411 (now WPB 1236), purchase orders for maintenance parts up to \$25 per elevator and not to exceed \$50 worth of such parts per elevator in any one year. The interpretation states that these dollar value limitations refer to the retail sales price of the parts, exclusive of the cost of labor or other services required for installation. Repair parts, irrespective of value, are exempted from authorization requirements by L-89 only when there has been an actual breakdown or suspension of operations of the elevator.

Ferromanganese—Amendment No. 1 to Revised Maximum Regulation No. 138, effective August 7, provides specific premiums or differentials which independent warehousemen may charge in sales of standard ferromanganese and other manganese alloys and metals.

The maximum prices at which independent warehousemen may sell manganese alloys and metal shall be the producers' maximum price to the warehouseman plus 10 per cent for quantities of 500 lb. or over, 15 per cent for amounts of 100 to 500 lb., and 20 per cent for amounts less than 100 lb.

The amendment also raises the maximum silicon content permitted in standard grade high carbon ferromanganese from 1.25 per cent to 1.50 per cent. It changes the quantity premium on sales of less than 2,000 lb. of electrolytic grade manganese metal to four cents per lb. from four-tenths of a cent, correcting a typographical error that appeared in the regulation. Premiums for delivery of this metal to the Western Zone also are raised to 3.35 cents per lb. from 0.55 cents in carload lots, and to 4.75 cents from 3.05 cents in less-than-carload lots, to allow for freight costs.

Furnaces—Amendment 9 to Order A-1 under Maximum Price Regulation 188, effective August 4, provides a nine per cent increase in the maximum prices for cast iron coal-fired warm-air furnaces.

Heating Equipment—General Limitation Order L-107, as amended, effective July 28, comprises a complete revision of the Extended Surface Heating Equipment Order, L-107. The revised order restricts distribution of extended surface heating equipment to "Approved Orders"—those which specify a delivery date, those which are rated AA-5 or better or which are for repair parts. By establishing a provisional scheduling procedure, Order L-107 provides for a better distribution of orders among the various manufacturers in the event that bottleneck conditions occur during the peak demand season. Schedule I to L-107 provides an extensive simplification program for the industry. The number of sizes and types of extended surface heating equipment has been reduced.

Extended surface heating equipment means any heat transfer element or any apparatus employing a heat transfer element, designed and constructed for space heating or for industrial heating or drying and using steam or hot water as the heating medium. It includes, but is not limited to, unit heaters, unit ventilators, convec-

tors, blast heating coils and special heating coils. It does not include gas or other direct fired unit heaters, any cooling equipment or any critical heat exchangers (covered by L-172).

Lumber—Producers of Northern hardwood and softwood lumber were authorized by Amendment No. 2 to Maximum Price Regulation No. 222 and Amendment No. 7 to Maximum Price Regulation No. 223, effective August 10, to increase basic mill lumber prices 10 per cent, with certain exceptions, pending detailed revision of present ceilings to reflect increased labor costs resulting from wage rises for lumber workers approved July 9 by the Director of Economic Stabilization.

In the case of softwood lumber, the 10 per cent increases in maximum prices are not applicable to hemlock plank and timbers, mixed Northern softwood planks and timbers, or Western white spruce plank and timbers.

In the case of hardwood lumber, the increases are not applicable to white oak or red oak structural sound stock or sound square edge material; white or red oak freight car stock, common dimension, mine car lumber; or material priced in tables for all hardwood species in standard special grades, specified widths or standard special widths and lengths.

The 10 per cent increase in the cases of both hardwood and softwood does not apply to kiln-drying, mill working, anti-stain treatment, or to differentials or additions which may be made to basic prices for special preparation of wood, or special specifications as are provided to footnotes to price tables.

Lumber Deliveries—Authorization to make and accept deliveries of restricted Western lumber, required under the provisions of Limitation Order L-290, is simplified and speeded up by the revised application Form WPB 2720 (formerly PD-872) just issued by WPB's Lumber and Lumber Products Division.

The prospective purchaser is instructed in the new form to make application for delivery authorization only after he has obtained assurance from his producer that the approved purchase order can be filled. The revised form also asks for the preference rating, if any, which has been authorized for the lumber requested. In the past some applicants have given the preference rating which they wished to have assigned rather than the one already assigned. Form WPB 2720 may be filed by either the prospective receiver of the shipment or the producer. Both will be notified of action taken by WPB and authorizations will specify the time within which deliveries are to be made.

Plastic Pipe—Amendment No. 8 to Order A-1 of Maximum Price Regulation 188, Amendment No. 18 to Maximum Price Regulation 188, and amendment No. 1 to Maximum Price Regulation No. 406, all effective August 9, provide uniform dollars-and-cents maximum prices and discounts for producers, distributors and retailers for sales of plastic pipe and tubing and plastic pipe fittings and tube fittings, when produced from certain Vinylidene chlorides known commercially as Saran B-11. Manufacture and distribution of the pipe and tubing and accompanying fittings are now getting under way on a commercial scale, and the determination of maximum prices under a single measure will clarify pricing procedure for the new industry, which has been subject to several regulations.

Protective coatings—Amendment 1 to Conservation Order M-332, issued July 27, is expected to remedy difficulties that have been experienced with the quality of paint-reducing oil which may be sold under Order M-332. Previously, no crusher, processor, manufacturer or wholesaler might deliver linseed oil or fish oil having a non-volatile content of more than 70 per cent by weight. The non-volatile content is the oil content, while the volatile content is turpentine or other solvent. The new order establishes a minimum oil or non-volatile content of 65 per cent of the product. This is effected by requiring that oil represented to be linseed replacement oil meet federal specification TTO-371. The amendment also unfreezes wholesalers' stocks on hand before July 1 when Order M-332 went into effect. It also unfreezes crushers' stocks on consignment with wholesalers before July 1.

Roof Coatings—Amendment No. 10 to Order A-1 of Maximum Price Regulation 188, effective August 4, establishes adjustment provisions which permit manufacturers of low priced asphalt and tar base roof coatings and cements to raise their ceiling prices by actual amounts of increased

costs of containers. Consumers will be assured continued production of the industry's low-price line as a result of this action, OPA stated. The increased container costs squeezed manufacturers' margin on low-price items so that production was curtailed and in some cases stopped. In turn, consumers were forced to purchase items from high or middle bracket lines where margins were sufficiently adequate to absorb the container cost increases.

Rubber Goods—Amendment 13 to Maximum Price Regulation 149, effective August 9, provides reductions in ceiling prices of rubber products containing neoprene so as to reflect the lowering of the price of that synthetic rubber from 45 to 27½ cents per lb. It also established consumers' maximum prices for two kinds of neoprene rubber hose which recently have come on the market, namely: gasoline hose of the service station pump type, and molded-braided welding hose. The gasoline hose is priced at 41 cents per ft. for 34-in. hose, and 52 cents per ft. for 1-in. hose. The welding hose ceilings range from \$13.18 per 100 ft. for 2½-in. one-braid hose, to \$20.22 per 100 ft. for ¾-in. two-braid hose. The changes also affect belting, packing, and similar commodities and molded, extruded and lathe-cut rubber goods bought chiefly by industrial consumers and the government.

Softwood Plywood—Interpretation 1 of Limitation Order L-150, as amended, issued July 31 by the WPB requires producers of softwood plywood to accept all orders for that product which meet their regularly established prices and terms. This condition, the interpretation holds, applies to the seller who regularly supplies only certain types of purchasers, such as wholesalers, jobbers and retailers. He may reject orders from other types of purchasers only when it is practicable for such purchasers to obtain the merchandise required and in the quantity desired through regular trade channels.

Softwood lumber—Amendment No. 2 to Revised Maximum Price Regulation No. 219, effective July 20, prohibits producers of northeastern softwood lumber from making additions to maximum prices for grades, workings, special patterns or extras unless those services are expressly requested by the buyer. Sellers may not make a charge for trimming where standard lengths of lumber are ordered and shipped.

Ties (Eastern Railroad)—Amendment No. 2 to Revised Maximum Price Regulation No. 216 Eastern Railroad Ties, effective August 12, provides that except in sales on a delivered basis, estimated railroad freight charges may not be added to maximum prices for railroad cross or switch ties at any loading-out point unless the ties actually have been shipped into that point by rail. The regulation, OPA said, established maximum prices as f. o. b. cars at the producer's nearest rail loading point. It also provides that in sales on a delivered basis, the seller may make an addition to the f. o. b. price equal to the estimated freight to destination from the producer's loading point nearest the location, regardless of the actual means of transportation used.

Recently, however, a practice has arisen which enables sellers to circumvent maximum prices. Under this practice, some have been moving ties by motor truck from one loading-out point to another, or to a loading point which is not the final destination, then selling the ties at maximum prices plus estimated rail freight, such as is allowed only in a sale on a delivered basis. Inasmuch as such shipments are not on a delivered basis, the addition of any freight to maximum prices for movement from one concentration yard to another under the foregoing circumstances except by rail, is a violation of the regulation.

Tires—Amendment No. 42 to Ration Order 1A, effective July 29, provides for a revised tire rationing certificate which will take the place of three different forms now in use. Besides serving three purposes, the new certificate has been simplified so that the number of entries required by the local board, by the consumer to whom it is issued, and by the dealer who gets it from the consumer, is cut substantially. OPA Form R-2, revised, will take the place of the present rationing certificate which is issued to consumers by local boards for tires, tubes and truck tire recapping, and to dealers for allotments of initial stocks. It will also supplant Form R-20 which is issued for purchase of emergency reserves of tires and tubes by operators of essential long-haul vehicles, and Form R-10 used to allot camelback to tire recappers.

GENERAL NEWS

More Courtesy Seen Railroads' Big Need

Business leaders feel current carrier ads should stress post-war prospects

Representative business executives—58 per cent of all interviewed—are optimistic regarding the post-war future of the railroads, while a smaller ratio (53 per cent) also believe the railroads are now doing all they can to build good-will for peace time. These and other highly significant opinions of business leaders about the railroads are revealed in a survey prepared by the marketing research department of the advertising firm of Henri, Hurst & McDonald, Inc., of Chicago, and issued by it in mimeograph form. The survey is based on the views of 120 business executives in 50 cities and 17 states, representing 30 different industrial classifications.

Asked what the railroads should now be doing to improve public good-will, 43 of the 120 executives made specific suggestions; the most frequently recurrent thoughts were the desirability for inculcating greater courtesy on the part of employees, and the advisability that current railroad advertising tell the public more about what the carriers propose to do toward improved post-war service.

Several of the executives interviewed suggested that the railroads endeavor to emulate the airlines' standard of courtesy by employees. Other suggestions had to do with simplified machinery for speeding up ticket sales, and avoidance of multiple sales of the same space. The complaint was made that some railroads have taken undue advantage of food rationing, to curtail the quality of their dining car service more than other public eating places have done.

Most of the business men (81 per cent) were aware of the limitations the railroads suffer in securing new equipment. As to what the railroads can do to improve wartime passenger service, the suggestions most frequently made were (1) restrict service to essential travel, (2) insist on courtesy, (3) add more trains where equipment is available, (4) dining car service badly in need of attention, (5) increase and improve ticket-selling facilities and handling of reservations.

The interviewees were particularly critical of the fact that desirable space can frequently be obtained from a conductor on a train, after applications for such space days in advance have been refused.

There was also complaint of reserved

space being taken over by the Army, with no advice to the civilian customer that his reservation had been pre-empted.

Of those questioned, 83 per cent expressed the belief that the railroads will be able to compete successfully for freight business after the war with air, bus and truck lines—while 70 per cent believed that they would be able to do so also in passenger traffic. Most of the business leaders offered specific suggestions as to how the railroads could thus succeed in competition. In passenger service, these suggestions included, (1) streamliner equipment for all trains, (2) more frequent service, schedules arranged to conserve business time, (3) greater comfort. In freight service, the most numerous suggestions had to do with faster service, extension of door-to-door service, lower rates, quicker terminal handling.

The business leaders showed a great preference for railroad travel over any other mode of transportation—60 per cent favoring the railroads as compared to 24 per cent favoring the airlines.

Among the most important messages which current railroad advertising is "getting over" are the good war job the railroads are doing and the futility of government operation. However, several interviewees said that present advertising fails to emphasize that the carriers are just as essential in peace as they are in war. The present advertising was said to be satisfactory as far as the war is concerned, but that it was not building future good-will or impressing the public adequately with the vital part the railroads play in peace-time.

Almost a third (27.6 per cent) of those questioned believe airlines' current advertising is superior to that of the railroads and 15 per cent rate the railroads' advertising as superior to that of the airlines—while 33 per cent believe railroad advertising is equal to that of the airlines. Those who believed the air advertising to be superior deemed it to be so because the railroads "lack glamour" and "romance." Also, the "public takes railroads for granted which is a handicap to be overcome"; "no post-war atmosphere"; "larger number of ads by aircraft producers give impression that air transport companies are doing more and better advertising"; "airlines sell courtesy"; "most airline ads deal with future, railroads with the present."

Several of the business executives criticized the railroads because "railroad officials are not large stockholders in their properties. If they would become so, many of the problems would become easy. A hired man is not as efficient as an owner." And, finally: "The railroads just need all the imagination their operators did not have from 1920 to 1940."

Net Income Series Hit Peak in May

Total for 12 months ended with June marked downward turn

The series of Class I railroad net-income totals for 12-month periods ending with successive months appears to have reached the crest in May if federal income taxes are deducted, according to the latest issue of the Monthly Comment on Transportation Statistics issued by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics. The net income after all tax deductions for the 12 months ended with June was \$1,114,711,000, the first interruption of the upward trend which had produced a peak of \$1,125,184,000 for the 12 months ended with May.

Before the deduction of federal income taxes, however, the net income for the 12 months ended with June was above that for the like period ended with May—\$2,265,023,000 as compared with \$2,223,203,000. In June federal income taxes were being accrued at an annual rate of \$1,499,500,000, the deduction for the month being \$52,292,639 greater than for June, 1942.

Analyzing June revenues, the Bureau noted that its freight revenue index, based on the 1935-1939 average as 100, fell off 18.6 points to 215 as compared with May's 233.6. The drop was attributed to the interruption to coal mining and the fact that the lower level of freight rates effective May 15 prevailed during the entire month of June. Meanwhile the index of passenger revenue continued its advance, the June figure being 424.4 as compared with May's 413.1.

In reporting on the increases in freight and passenger revenues for this year's first six months as compared with the first half of 1943, the Bureau called attention to the fact that the percentage increases experienced by individual roads "vary widely." A tabulation covering the 50 largest roads shows that the increase in freight revenues ranged from 53.2 per cent on the Chicago, St. Paul, Minneapolis & Omaha to 227.3 per cent on the St. Louis Southwestern. Passenger revenue increases ranged from the Long Island's 56.1 per cent to the Cotton Belt's 1,097.9 per cent. Thirteen of the 50 roads had an increase of over 500 per cent in their passenger revenues. As the Bureau sees it, the Western roads as a whole "have benefited most by the war boom."

On the expense side the Bureau looked

over figures showing the relationship of maintenance charges to transportation expenses, coming to the conclusion that "maintenance charges are not unusually low whatever the difficulty of getting materials for actual repairs." June's operating expenses, it also noted, included accruals by 33 Class I roads for anticipated increased wage awards. The total of such accruals was \$7,306,031. For the first six months of 1943, the number of roads reporting such accruals was 36, and the total amount accrued was \$38,138,925. Six roads began making such accruals as far back as November, 1942.

Against the \$2,324,600,000 which the railroads held in cash and cash investments as of May 31, the Bureau set the "also large" accrued tax liability of \$1,351,600,000. Meanwhile the funded debt of Class I roads reported as becoming due within six months from May 31 totaled \$185,458,392, principally accounted for by maturities of nine roads. These included the Delaware & Hudson, \$49,000,000; Atchison, Topeka & Santa Fe, \$31,062,249; New York Central, \$23,176,962; Great Northern, \$20,837,874.

The increase of "less than one per cent" in the total number of locomotives on May 31 as compared with May 31, 1942, was contrasted by the Bureau with the increase of 8.75 per cent in freight gross ton-miles and 21.7 per cent in locomotive propelled passenger train car miles. Miles per serviceable locomotive day increased 0.6 per cent in freight service and 6.3 per cent in passenger service.

The statement also called attention to the "marked increase since 1940 in the amount of switching service the railways have to perform for each car loaded." This is measured on the basis of switching hours per 1,000 cars loaded, the average for May being 1,579 as compared with 1,481 for May, 1942; 1,506 for the year 1942 and 1,300 for 1938. "The increase of nearly 16 per cent in the 1942 average compared with that of 1938," the Bureau said, "is explained mainly by the lengthening of the haul and an increased number of interchanges and not by yard congestion. The percentage cars received from connections were of total loaded was 68 in 1938 and 87 in 1942. The average haul of freight was 356 miles for the railways as a system in 1938 and about 430 miles in 1942. It is also probable that the reduction in l. c. 1. loadings resulting from ODT order No. 1 did not correspondingly decrease the number of cars to be switched."

The Bureau's tabulation of relative figures on railway employment and car-miles showed that the 1942 employment index was 72.9 on the basis of 1925 as 100, while the car-mile index was 125.9. The 1940 employment index was 58.9, and the car-mile index 89.

Air Traffic in Canada

During the first six months of 1943 air mail carried by the Trans-Canada Air Lines (Dominion-government-owned and operated under the direction of the Canadian National management) was more than doubled, as compared with the cor-

responding period in 1942. More than three times as much express was carried and the number of passengers increased by more than 17,000, according to a recent announcement made by the company.

1,732,227 lb. of mail were carried in the first six months this year as compared with 864,095 lb. last year. Air express totaled 332,212 lb. as against 107,834 lb. for the first six months of 1942 and 64,747 passengers were carried as compared with 47,650 a year ago.

Club Meeting

The Allegheny Regional Advisory Board will hold its next regular meeting on September 21-22 at the William Penn hotel, Pittsburgh, Pa.

Safety Poster for September

"Always Be Sure of Safe Grip and Firm Foothold" is the title of the safety poster issued by the Committee on Education, Safety Section, A. A. R., for the month of September. The poster illustrates the right and wrong way of holding on to a moving locomotive.

Texas Ad Valorem Taxes Lowest Since 1916

As a result of a reduction in ad valorem taxes in Texas, from 75 cents in 1943 to 47 cents in 1944, the levy for 1944 is the lowest since 1916. A carryover in school funds, because tax payments exceeded last year's estimates, is chiefly responsible for the reduction.

Depreciation Remains Optional for Class II and III Roads

Mandatory requirements of the Interstate Commerce Commission's orders prescribing depreciation accounting for road property have been postponed until January 1, 1945, insofar as they affect Class II, III steam roads. The postponement came in an order by Division 1, dated July 28.

Committee on Fair Employment Practice Names Counsel

Bartley C. Crum of San Francisco, Calif., has been appointed by the President's Committee on Fair Employment Practice to be chief counsel in the forthcoming hearings on alleged discrimination against negro employees by railroads and railway labor organizations in the South. The hearings are to be held in Washington, D. C., September 15, 16, and 17.

Frank Thomson Scholarship Awards Announced by P. R. R.

Winners of the two Frank Thomson college scholarships awarded to sons of Pennsylvania R. R. employees have been announced by C. E. Musser, chief of personnel of the P. R. R. The awards go to Donald R. De Veaux of Valley Stream, L. I., whose father is a transitman in the office of the chief engineer of the New York Zone, and David Pugh of Norristown, Pa., whose father recently retired as assistant engineer in the office of the chief engineer of the Eastern region.

The Frank Thomson scholarships were established in memory of Frank Thomson, who served as president of the Pennsylvania from 1897 to 1899, by his heirs. The scholarships are designed to give the sons of P. R. R. employees an opportunity to secure technical education. The terms of the trust provide for the maintenance of 8 scholarships and normally two become vacant each year. They are valued at \$800 annually.

Refuses to Reopen Cleveland Stockyards Case

The Interstate Commerce Commission has denied petitions for rehearing, reconsideration and modification of its findings in the No. 28421 proceeding and related cases wherein it recently determined the duties of line-haul railroads with respect to the transportation of livestock at Cleveland, Ohio. The commission's report was noted in the *Railway Age* on May 29, page 1111.

I. C. C. Investigation of Export Rates to Pacific Ports

Acting upon advices received from the director of the Office of Defense Transportation, the Interstate Commerce Commission has instituted an investigation of railroad rates, rules, and regulations applicable in connection with government freight moving to Pacific Coast ports for export. The proceeding, docketed as No. 29006, has been assigned for hearing at Washington, D. C., on September 15 before Commissioner Johnson and Examiner Berry.

The rates, rules, and regulations involved are those published in Agent L. E. Kipp's tariff, I. C. C. 1485, and supplements and reissues thereof.

One Commutation Fare Case Is Dropped by the I. C. C.

The Interstate Commerce Commission has discontinued its investigation of New York state commutation fares in its No. 28815 proceeding, instituted in April, 1942, in view of its order in Ex Parte 148, revoking the increase in such fares effective at the time the investigation was ordered. As a result of the revocation ordered in connection with the Ex Parte 148 decision, another investigation of New York commutation fares, No. 28973, is now in progress.

Representation of Employees

The Association of Shop Craft Employees of the Southern Pacific Lines in Texas and Louisiana has retained the right to represent blacksmiths, their helpers and apprentices employed by the Texas & New Orleans, according to results of a recent election certified by the National Mediation Board. The Association beat out the American Federation of Labor's International Brotherhood of Blacksmiths, Drop Forgers and Helpers by a vote of 64 to 60.

Other recent elections and checks of representation authorizations have resulted in the certification of the American Rail-

way Supervisors Association, Inc., for the Kansas City Terminal's mechanical department foremen or supervisors of mechanics; the A. F. of L.'s Railroad, Dock and Bridge Watchmen for watchmen employed by the Duluth, Missabe & Iron Range; the International Longshoremen's Association for bridge operators and steam hoist engineers in the Erie's marine services; the Congress of Industrial Organizations' United Steelworkers of America for carmen, their helpers and apprentices employed by the Union; and its United Transport Service Employees of America for Florida East Coast maids and coach attendants.

Car Ferry Strike Ties Up Mackinac War Shipments

Carload shipments of three railroads, the Duluth, South Shore & Atlantic, the Pennsylvania, and the New York Central, were tied up temporarily on both sides of the Straits of Mackinac on August 10, when 35 unlicensed personnel of car ferry crews struck while demanding that their wages be increased to the lake carrier rate. During the strike, passenger traffic was transferred to state ferries and mail, baggage and express shipments were placed on trucks and also moved on state ferries.

Bomber Derails Western Pacific Freight Train

Twenty-six cars of a Western Pacific freight train were derailed near Wendover, Utah, on August 8, when parts of an Army bomber, loosened in a crash landing, fouled the line. The bomber, flying south, attempted a crash landing near U. S. highway 40-50, which parallels the Western Pacific, but struck the salt flats north of the highway and slid across the highway and the tracks. Ten minutes later the Diesel powered train was derailed by parts of the bomber which remained on the track.

Larger Allocations for Third Quarter

A substantial increase in the amount of carbon steel and other necessary controlled materials allocated to the transportation industry by the War Production Board under the Controlled Materials Plan for the fourth quarter of 1943 was announced August 9, by the Office of Defense Transportation. It was disclosed that the transportation industry will receive 1,380,000 tons of carbon steel for "A" products for the fourth quarter as compared with 1,200,000 tons for the third quarter, and a fourth quarter request to WPB of 1,590,000 tons. Of this total, the railroads are allocated the largest share, including 400,000 tons of replacement rail, 240,000 tons of track accessories, and 300,000 tons of other maintenance materials. A recapitulation of the railroad program shows a total allocation of 1,527,000 tons of new replacement rail for 1943 as compared with 1,300,000 tons in 1942.

In the matter of materials for new construction and facilities the WPB granted the amount asked for by ODT. Officials of ODT said that particular attention

would be devoted to railroad construction projects in the Western defense area. The amount of material sought for the fourth quarter for the production of locomotives and freight cars was granted by the WPB Requirements Committee. Although the third quarter allocation included no steel for new freight cars, the steel for an additional 9,500 cars has been allocated for the fourth quarter. However, most of these cars will not be completed until early in 1944.

July Export Freight

Cars of export freight other than grain or coal unloaded at Atlantic, Gulf and Pacific ports in July this year totaled 130,060 cars compared with 75,814 in July, 1942, according to the Association of American Railroads. Cars of grain for export unloaded in July this year at these ports totaled 4,970 cars compared with 2,319 in the same month last year.

The average daily unloadings of 4,366 cars of export and coastal freight at all United States ports in July was the heaviest on record, exceeding the previous high of 4,200 during June by 166 cars daily.

Great Lakes Ore Volume Makes New Record

In the greatest single month in the history of the Great Lakes iron ore movement, 13,588,814 gross tons of ore moved from upper to lower lake ports in July, the Office of Defense Transportation announced August 9. Though the total season's movement is still 8,974,968 tons behind the point attained at the same time last year, it was pointed out, as a result of the late opening of navigation this year, the position is considered favorable for meeting the revised goal for the year of 86,500,000 tons set by the War Production Board.

The July record ore movement was achieved despite the fact that the lake vessel operators, at ODT direction, moved both the July and August quotas of grain, amounting to about 14 million bushels, it was explained. As new vessels turned out under the Maritime Commission building program are added to the fleet, it is expected that the season movement will meet the WPB's requirement, unless unfavorable weather or an unusually early winter should hamper operations before the average closing date, which is December 6.

Eastern Truckers Get Four Per Cent Rate Increase

Common carrier truck lines operating within Trunk Line territory and between Trunk Line and New England territories have been authorized by the Interstate Commerce Commission to make a general increase of four per cent in their rates and charges. The authorization came in a report by Division 2 in the I. & S. No. M-2222 proceeding wherein the truckers proposed increases of 10 per cent in less-truckload rates and four per cent in truckload rates.

The decision also finds just and reasonable the proposed cancellation of so-called "breakdown" rates subject to minimum

weights less than the normal truckload minima, and it limits the increase in minimum charges per shipment to the four per cent authorized generally. The commission estimated that the adjustment will give the truckers an average operating ratio of approximately 93 per cent, "which appears to be reasonable."

The report expressed disapproval of indicated intentions of the truckers to remove part of the authorized increases if they resulted in losses of traffic to the railroads. "If such a program were put into effect," the commission said, "it would make those shippers whose traffic is not affected by competition bear the entire burden of the carriers' increased operating costs, and if numerous reductions of this type were made, another general increase in rates might become necessary. We do not favor such a program as that outlined by the respondents, and shall watch carefully all filings of reduced rates which might indicate that such a program is being put into effect."

June Accident Statistics

The Interstate Commerce Commission on August 7 made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for June and this year's first half. The compilation, which is subject to revision, follows:

Item	Month of June		6 months ended with June	
	1943	1942	1943	1942
Number of train accidents*	1,292	1,085	8,209	6,232
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	198	210	848	896
Injured	136	144	710	729
Passengers on trains:				
(a) In train accidents*				
Killed	8	16	20
Injured	28	24	1,150	447
(b) In train-service accidents				
Killed	5	5	26	15
Injured	231	147	1,257	941
Travelers not on trains:				
Killed	2	4	10	8
Injured	100	65	560	370
Employees on duty:				
Killed	91	65	497	422
Injured	3,777	2,799	21,817	15,093
All other nontrespassers:**				
Killed	123	132	977	1,070
Injured	433	395	3,316	3,333
Total — All classes				
Killed	419	424	2,374	2,431
Injured	4,705	3,574	28,810	20,913

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former cause damage of more than \$150 to railway property.

** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:

Persons:

Killed

Injured

100 117 849 972

207 245 1,940 2,395

July July July Aug Cumul July July July Aug Cumul July Aug Aug Aug

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Extends Bus Route Suspension

The Office of Defense Transportation on August 6 directed that service over certain bus routes between New York and Chicago, which was ordered suspended February 6 for a 14-week period, should remain suspended until May 15, 1944, under

a joint action agreement between Northern Trails and All American Bus Lines. An annual saving of about \$800,000 bus miles was expected to result from the arrangement, under which Northern Trails discontinued service between New York and Chicago via Breezewood, Pa., between Emmitsburg, Md., and Pittsburgh, Pa., and between Emmitsburg and Chicago via Ft. Wayne, Ind.

Freight Car Loading

Loadings of revenue freight for the week ended August 7 totaled 872,077 cars, the Association of American Railroads announced on August 12. This was a decrease of 13,437 cars, or 1.5 per cent, below the preceding week, an increase of 21,856 cars, or 2.6 per cent, above the corresponding week last year, and a decrease of 6,428 cars, or 0.7 per cent, below the comparable 1941 week.

Loading of revenue freight for the week ended July 31 totaled 885,514 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings

	For the Week Ended Saturday, July 31		
District	1943	1942	1941
Eastern	169,806	156,760	181,785
Allegheny	197,425	187,966	193,130
Pocahontas	56,916	57,086	58,379
Southern	119,325	121,272	120,762
Northwestern ..	141,843	141,096	142,161
Central Western ..	131,821	126,409	128,315
Southwestern ..	68,378	72,987	57,490
Total Western Districts	342,042	340,492	327,966
Total All Roads	885,514	863,576	882,022
Commodities			
Grain and grain products	58,553	43,618	45,140
Live stock	14,270	11,790	9,751
Coal	178,117	165,705	166,167
Coke	14,937	13,819	13,109
Forest products	48,188	55,463	49,644
Ore	86,704	88,429	77,228
Merchandise			
I.C.L.	98,706	89,564	155,726
Miscellaneous	386,039	395,188	364,257
July 31	885,514	863,576	882,022
July 24	883,826	855,515	897,564
July 17	877,330	857,146	899,370
July 10	808,630	855,158	876,142
July 3	852,106	753,740	740,359
Cumulative total, 31 weeks	24,404,428	25,248,536	24,146,189

IN CANADA.—Car loadings for the week ended July 31 totaled 68,286 as compared to 66,841 for the previous week and 66,246 for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
July 31, 1943	68,286	39,243
July 24, 1943	66,841	38,986
July 17, 1943	67,282	38,596
Aug. 1, 1942	66,246	35,443
Cumulative Totals for Canada:		
July 31, 1943	1,962,860	1,150,342
Aug. 1, 1942	1,964,131	1,019,824
Aug. 2, 1941	1,802,988	906,170

Fire Losses Down 22 Per Cent

Fire losses on the railroads of the United States in 1942 amounted to \$5,781,508, a decrease of 22 per cent compared with 1941, when the losses were \$7,457,758, according to a report of the Committee on Records and Statistics of the Fire Protection and Insurance section of the Association of American Railroads.

Average fire losses per mile of road in 1942 were \$21.74, compared with \$27.53 in 1941, a reduction of 21 per cent. The average loss per fire decreased from \$1,605 in 1941 to \$1,259 last year, a reduction of 22 per cent. There were 4,648 fires reported in 1941, compared with 4,593 in 1942, a decrease of 1 per cent.

In 1942, wrecks were responsible for larger fire losses than those attributed to any other single factor. The 1942 fire loss so assigned was \$1,298,627. Smoking and matches, resulting in losses of \$862,757, was second on the year's list of causes. Fires due to unknown causes totaled \$835,795, whereas miscellaneous fires resulted in losses of \$368,383 last year.

Other major causes, together with their respective fire losses, were as follows:

Exposure, \$349,038; sparks, \$347,593; trespassing, \$208,226; electric power or motors, \$193,265; concealed sparks in cotton, \$141,289; burning on right-of-way, \$134,809, and acetylene torch, \$112,352.

10 Cents or 11 Tokens for \$1 Is New H. & M. Fare

Reporting on reconsideration of the I. & S. No. 4394 proceeding, the Interstate Commerce Commission in a report by Commissioner Porter has now authorized the Hudson & Manhattan to establish a local fare between Jersey City, N. J., and Hoboken and Hudson Terminal, New York, on the basis of 11 tokens for \$1 or a cash fare of ten cents. The authorization is upon the condition, requested by the company, that the same basis shall also apply on its uptown New York line where the fare has been a straight 10 cents.

Also, the adjustment is limited to the period of the war and six months thereafter, as was the nine-cent fare found justified in the prior report noted in the *Railway Age* of June 26, page 1277. The railroad sought the modification now made because of the difficulties of collecting the nine-cent fare in its collection boxes. It had originally asked for a 10-cent fare, but the present report affirms the commission's previous finding that such a rate had not been justified.

Commissioner Miller, concurring in part, agreed that the present report affords the H. & M. relief from the requirements imposed in the prior report; but he was still of the opinion that a 10-cent fare had been justified on the record. Commissioners Mahaffie and Patterson agreed with him, while Commissioner Aitchison did not participate in the disposition of the proceeding.

Forest Products Laboratory to Conduct Training Course

In response to overtures made on behalf of the Committee on the Prevention of Loss and Damage of the Freight Claim division of the Association of American Railroads, the United States Forest Products Laboratory, Madison, Wis., will conduct, in October or early November, a week's course of training in packing and loading freight, which is prepared especially for railroad, bureau and express

service inspectors, and claim adjusters. Changes in the technique of designing, manufacturing and closure of shipping cases, and in the stowing and bracing of freight in cars have taken place in recent years, it is pointed out, and railroad representatives should be kept informed so that they may function in post-war plans to improve service and relations with the shipping public.

In addition to studies of container construction, subjects to be discussed include manufacturing defects in enamelware and how to identify them; proper methods of packing furniture, glassware, and chinaware; common weaknesses and defects in certain commodities standing high in the claim account; the use of metal straps in the loading of open and closed cars; the functioning of the draft gear and truck springs in relation to damage to freight; the stowing of l. c. l. freight; and careful switching.

A flat sum of \$1,500 will be charged by the laboratory, regardless of the number enrolled, with the result that the fee per individual will be the total divided by the number enrolled. Not more than 100 persons can be accommodated.

Number of Vacant Jobs Down in June

A total of 71,469 persons are needed to fill existing vacancies on railroads, according to the July 1 report of the United States Railroad Retirement Board on personnel needs and surpluses in the railroad industry. This compares with 80,913 persons shown in the report of June 1 and 77,013 persons in the report of May 1.

Of the number of persons needed, as shown in the July 1 report, 37,363 or 52 per cent are in occupations within the maintenance of way and structures group and of this group 33,937 are needed for section and extra gang work. "This appears particularly alarming," the report states, "since several months have passed since the opening of the track work season for many roads and apparently much track maintenance work which should have been well advanced is yet to be done. Large shortages of track maintenance workers still exist in northern sections of the country where the track maintenance work season is shortened by winter weather."

"Personnel needs for all occupations have changed only slightly from the preceding month's report. Severe shortages of manpower are again reported in the occupations within the maintenance of equipment and stores and transportation groups."

"The efforts of the board's employment service to alleviate the railroads' manpower shortage is evidenced by placements of 36,650 persons during June. However, it is obvious that even though the board's employment service efforts and the carriers' own recruitment have added thousands of new personnel, the tremendous employee turnover and the attrition of selective service has left the industry extremely short of needed personnel."

SIX NEW LOCOMOTIVES

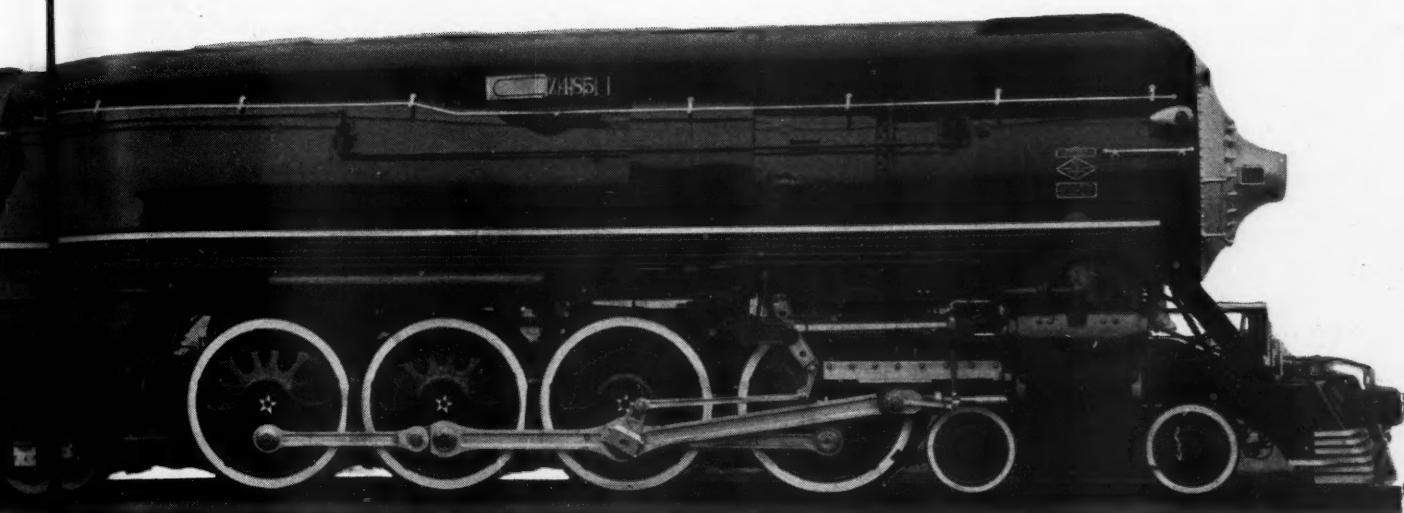


Weight in working order, pounds

On Drivers	Engine Truck	Trailer Truck	Total Engine	Tender $\frac{2}{3}$ Capacity Loaded
280950	73650	111500	466100	316250
Wheel Base			Tractive Power	
Driving	Engine	Engine and Tender	Main Cylinders	With Booster
20'-0"	45'-10"	94'-5"	64200 lbs.	75500 lbs.
Boiler		Cylinders		Driving Wheel
Diameter	Pressure	Diameter	Stroke	Diameter
86" O.D. at Front	260 lbs.	27"	30"	73½"

LIMA LOCOMOTIVE WORKS

GO IN SERVICE



ON THE WESTERN PACIFIC

With wartime traffic imposing staggering burdens on all western railroads, the advent of these six most modern Lima-built type 4-8-4 locomotives should prove of great benefit in the handling of freight over the Western Pacific's important route between Salt Lake City and the Pacific coast.

Lima-built Super-Power Steam Locomotives are serving the country's war effort from coast to coast. They haul heavier trains faster and increase the capacity of the roads they serve.

S INCORPORATED, LIMA, OHIO

"Surpluses reported increased only very slightly this month, totaling 347 as compared to 256 as of June 1 and 172 as of May 1, 1943. The number is still negligible, however, for the industry as a whole."

The following is a summary table of July 1 needs and surpluses by occupational groups reported by 172 carriers:

Occupational Group	Needs		
	Number	Per Cent	Surpluses
I Executive, official and professional	158	0.2	0
II Clerical	1,184	1.7	1
III Maintenance of equipment and stores	22,061	30.9	78
IV Maintenance of way and structures	37,363	52.3	0
V Transportation .	10,457	14.6	232
VI Miscellaneous ..	246	0.3	36
Totals	71,469	100.0	347

Car Department Officers Line Up Year's Work

At a recent meeting of the board of directors and the general committee of the Car Department Officers' Association at Chicago, H. P. Allstrand, chief mechanical officer, Chicago & North Western, was elected a member of the board in place of E. B. Hall, retired, and J. A. MacLean, Jr., president, MacLean-Fogg Lock Nut Company, Chicago, was made a member of the board in place of J. W. Fogg, long associated in various executive capacities with the same company. The work of the Car Department Officers' Association was lined up for the coming year and it was decided that, although no annual meeting will be held this Fall, committee reports will be prepared as usual and published in a book of 1943 proceedings the same as in previous years.

Plans were discussed for developing more enthusiasm and interest in the association's activities and to lay the groundwork for a membership campaign, which it is hoped will be supported by higher officers of the railroad and railway supply companies. The urgent need of this support was stressed by the directors and general committee members who emphasized the potential importance of the work of this association in the interest of more effective and satisfactory use of railway car equipment.

The subjects selected for consideration in 1943 reports, and approved by the A. A. R., Mechanical Division, also the committed chairmen, are as follows:

Job Training and Proper Utilization of Manpower, J. E. Keegan, chief car inspector, Pennsylvania, Chicago.

Repair Methods and Shop Kinks (including Tool Maintenance), R. K. Betts, foreman car repairs, Pennsylvania, East St. Louis, Ill.

Passenger Shop and Train Yard Operation in the Present Emergency, C. P. Nelson, assistant superintendent car shops, Chicago & North Western, Chicago.

Lubricants and Lubrications (Packing and Servicing Journal Boxes), J. R. Brooks, supervisor lubrication and supplies, Chesapeake & Ohio, Richmond, Va.

Freight-Car Inspection (and mainten-

ance to comply with A. A. R., Mechanical Division, GC-1006 committee instructions, H. E. Wagner, master car builder, Alton & Southern, East St. Louis, Ill.

Interchange and Billing for Car Repairs, E. G. Bishop, general foreman, car department, Illinois Central, East St. Louis, Ill.

A. A. R. Loading Rules, E. N. Myers, chief interchange inspector, Twin City Joint Car Inspection Association, St. Paul, Minn.

A. A. R. Painting Rules (Interior and exterior freight-car painting), L. Hartz, foreman painter, Illinois Central, Chicago.

Opposed to Cut in Class Rates

To permit a general downward revision of all class freight rates on manufactured goods moving south of the Ohio and Potomac rivers and east of the Mississippi without raising rates on raw materials carried in the same area would "amount to a plain subsidization of southern industry," according to the Chicago Association of Commerce in a brief filed in the class rate investigation I. C. C. Nos. 28300 and 28310.

The association, making joint representations with commercial and industrial interests in Illinois, Indiana, Wisconsin, Michigan, and Ohio, said that the only sections that would not be affected adversely by the rebuilding of freight rates would be the southern and southwestern states. These states, through their public utility commissions and state industrial promotion agencies, have been attempting to accomplish in the present investigation the same objectives they failed to attain in the original "southern governors' case," the Chicago association said.

"The southern, southwestern and more westerly intermountain states have for years enjoyed cheaper rates on raw materials carried than the more industrial midwestern states," the association stated. "On the other hand, they have paid higher class rates on manufactured goods.

"It is the association's position that rates on manufactured wares should be continued unchanged in the five midwestern states, even though rates in the southern, southwestern and western areas be reduced, provided that accepted transportation principles be recognized in such downward revisions."

Proposed Report on Temperature Control Services

Consolidation of rules governing carriers' protective services (i.e. temperature control services) to perishable freight against cold and "reasonable" charges for such services have been recommended in a proposed report by Interstate Commerce Commission Examiner F. L. Sharp. The report, in the No. 20769 proceeding, also determines the cost of furnishing the protective services under the tariff rules involved.

Other recommendations of the examiner would have the commission find that the respondent railroads and refrigerator car lines are not under lawful obligation to permit shippers to provide protective serv-

ices against cold in transit, and rule 510 which permits only certain shippers to provide such services is unduly preferential and prejudicial. Likewise would the examiner have rules 522 and 523 declared preferential and prejudicial, and the carriers required to discontinue the offer of service without charge to fewer than all shippers of a commodity or to fewer than all competitive commodities.

The failure of carriers in the East to provide the service within the territory served by them is called unjust and unreasonable while the demand of Pacific Northwest apple and pear shippers for protective service against cold based upon temperature within the car is found reasonable. The proposed report also embraces No. 28375, N. S. Sage v. The Alton Railroad Company, et al, which the examiner would dismiss.

Redcaps' Separate Bargaining Rights Approved by Court

In a recent decision of the United States Court of Appeals for the District of Columbia the right of "redcap" porters in railway stations to be represented in labor disputes by the United Transport Service Employees of America was upheld, and the finding of the National Mediation Board, in a complaint involving employees of the Saint Paul Union Depot, in which the Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees was certified as the bargaining agent for the employees involved, was voided.

The porters had voted for representation by the union first named above, but the board had ruled that they were not an independent class of railway employees under the Interstate Commerce Commission classifications, and so should vote with other employees included in the class of clerical, office, station and storehouse employees, represented by the other union. The court, upholding a district court decision, ruled that such a finding would deprive the porters of an opportunity to take advantage of the terms of the Railway Labor Act, since the union by which the board said they should be represented did not accept negro members, so that they would be the victims of what was termed "an intolerable situation."

In this case, said the court, the company and the station employees' union had combined their efforts to insist that the porters should be represented in negotiations concerning working time, pay, and grievances by a union to which they were ineligible for membership. Such an arrangement, it found, would be "so palpably unjust and so opposed to the primary principles of the [Railway Labor] Act as to make the board's decision upholding it wholly untenable and arbitrary."

Ward Demands Court Not I. C. C. Try Suit

In a brief airmailed to the Federal District Court at San Francisco, Calif., Montgomery Ward & Co., Chicago, has asked that court to assume jurisdiction of its \$4,882,153 damage suits against a num-

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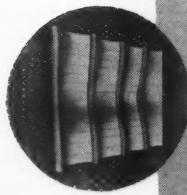
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A M E R I C A N A R C H C O M P A N Y
INCORPORATED • 60 East 42nd Street, New York 17, N. Y.
S E C U R I T Y C I R C U L A T O R D I V I S I O N

ber of Western common carriers which withheld pickup and delivery of merchandise to its West coast stores in 1941. The brief is an answer to arguments of railroads and motor trucking companies that administrative issues are involved which call for intervention by the Interstate Commerce Commission. In oral arguments before the District Court last April 17, the carriers demanded that separate suits against each individual carrier be filed by Ward. Ward contends that the case involves only the Western carriers which withheld service, that the I. C. C. is not concerned and that trial should proceed on the basis of the damage claims.

"The present case," the brief contends, "is concerned simply with failure to pick up merchandise and deliver it to the plaintiff's place of business. A decision of the case would in no way encroach upon any function of the commission to be the sole promulgator of rules which are legislative in character and derive from statutory powers which have modified the common law. At most, merely an interpretation of tariffs, which are presumed to have been sanctioned by the commission, is involved. Under these circumstances, this court is properly the forum for the plaintiff's case."

The suits were filed in the Federal District courts at San Francisco and Portland, Ore., on December 3, 1942, and asked total actual and punitive damages of \$4,882,153. The suit named the Western Pacific, the Atchison, Topeka & Santa Fe, the Southern Pacific, among the railroads; Railway Express Agency, Inc., and a long list of motor truck operators.

I. C. C. Service Orders

As a result of an acute shortage of ice at points serving refrigerator cars, the Interstate Commerce Commission recently has issued several service orders putting further restrictions on the icing of such cars. Amendment No. 2 to Service Order No. 133, effective August 4, provided that cars loaded with fresh or green vegetables using top or body ice can be accepted by railroads only if bunkers are collapsed in cars fitted with collapsible bunkers, or, if not so equipped, that bunkers may be iced only if the initial top or body ice does not exceed 15,000 lbs. The same amendment provided also that such cars originating in Arizona or California can not receive top or body reicing at any point west of the western border of Indiana, lower Michigan, Kentucky, Tennessee or Mississippi. It further provided that permissible initial bunker icing may be performed at Roseville, Calif., for shipments originating in the Salinas-Watsonville district of that state.

Service Order No. 143, effective August 5, provided that after the first reicing of bunkers of refrigerator cars of fresh or green fruits or vegetables further reicing at Belen, N. M., Big Spring, Dalhart, or Del Rio, Tex., Denver or Pueblo, Colo., or Laramie, Wyo., shall not be in excess of 75 per cent of bunker capacity.

Service Order No. 145, effective August 7, provided certain restrictions on reicing

refrigerator cars loaded with potatoes which are initially iced at Nampa or Pocatello, Ida., and limited to one reicing to 75 per cent of bunker capacity cars loaded with potatoes at points in Colorado, Kansas, Montana, New Mexico, Nebraska and Wyoming which are destined to points in Illinois, Wisconsin or states west of the Mississippi River. Cars from the states named destined to more easterly points may be reiced twice under the restrictions of this order, but only to 75 per cent of bunker capacity.

Amendment No. 1 to Service Order No. 135, effective August 6, made certain changes in the points at which the demurrage charges specified in the original order (reported in *Railway Age* of July 17, page 114) are applied. Cars held at Bisbee Junction and Yuma, Ariz., are no longer subject to the terms of the order, while Cantu and San Ysidro, Calif., have been added to the list of points where it applies.

Amendment No. 1 to Service Order No. 139 prohibits railroads handling carload shipments of gravel from points in Louisiana or Arkansas to stations in the vicinity of Barksdale Field, near Shreveport, La., from weighing such shipments on track scales, except to the extent necessary to obtain average weights. Service Order No. 144, effective August 7, similarly restricts weighing shipments of gravel, sand or aggregates from any point destined to Dalhart, Tex., or to nearby points for use on government construction there.

Service Order No. 146 was issued on August 10 to meet the situation caused by a "stoppage of work" by employees of the car ferry operating between Mackinaw City, Mich., and St. Ignace. It directed the Pennsylvania, Michigan Central, New York Central, and Duluth, South Shore & Atlantic to divert traffic routed via the ferry over the most available open routes.

G. N. Report to Employees Stresses War Service

The Great Northern has issued its annual report to employees—featuring attractive photographs and vivid graphic presentations, as usual—but with special emphasis on the relation of the company and its employees to the war.

There were 5,164 of the company's employees in the armed services at the time the report was prepared, and 10 of the number had given their lives (photographs of nine of them being published in the report).

The disposition made by the company of its large 1942 earnings (from traffic two-thirds larger than that of 1929) is explained by President Gavin: 14½ million dollars were spent for additions and betterments, which will help the company and its employees in their competition with other agencies of transportation at the end of the war. In addition, funded indebtedness was reduced by some 20 million dollars, which also will strengthen the property in its post-war position.

Owners of the Great Northern, in its year of greatest earnings, received dividends of \$2 per share—equivalent to 3 cents out of each dollar received from the public for transportation service. This 3

cents is contrasted with 33 cents received by employees and 18 cents garnered by the tax-collector.

A separate article in the report gives pictures and explanatory text on the 704th Railway Grand Division "of Great Northern ancestry" in the Military Railway Service. Another article reports on the "Health for Victory" campaign, offering free booklets in the planning of wartime meals; and there is a 4-page "insert" giving up-to-date information on war bond sales by divisions and departments.

Included, of course, is the usual statistical information on the company's traffic and financial position—expressed in readily-understood language.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

- ALLIED RAILWAY SUPPLY ASSOCIATION.—J. F. Gettrust, P. O. Box 5522, Chicago, Ill.
AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—W. R. Curtis, G. M. & O. R. R., 105 W. Adams St., Chicago, Ill.
AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. P. Soehbing, Railway Exchange Bldg., St. Louis, Mo.
AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. C. R. R. of N. J., 143 Liberty St., New York, N. Y.
AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill.
AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill.
AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—F. R. Borger, C. I. & L. Ry. 836 S. Federal St., Chicago, Ill.
AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—Miss Elinor Heffern, Room 822, 310 South Michigan Avenue, Chicago, Ill. Annual meeting, October 19-21, 1943, Hotel Sherman, Chicago, Ill.
AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York.
AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—H. C. Millman, Ind. Agent, Pennsylvania R. R., Union Station, Chicago, Ill.
AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill.
AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—Page N. Price, Norfolk & Western Magazine, Roanoke, Va.
AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. H. Hunt, Tower Bldg., Washington, D. C.
AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York, N. Y.
Railroad Division—E. L. Woodward, Railway Mechanical Engineer, 105 W. Adams St., Chicago, Ill.
AMERICAN TRANSIT ASSOCIATION.—Guy C. Heckler, 292 Madison Ave., New York, N. Y.
AMERICAN WOOD PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eye St. N. W., Washington, D. C.
ASSOCIATION OF AMERICAN RAILROADS.—H. J. Forster, Transportation Bldg., Washington, D. C.
Operations and Maintenance Department,—Charles H. Buford, Vice-President, Transportation Bldg., Washington, D. C.
Operating-Transportation Division.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
Operating Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
Transportation Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York, N. Y.
Freight Station Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.
Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
Protective Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
Safety Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.
Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York, N. Y.
Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill.
Construction and Maintenance Section.

—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill.

Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill.

Signal Section.—R. H. C. Balliet, 30 Vesey St., New York, N. Y.

Mechanical Division.—Arthur C. Brown, 59 E. Van Buren St., Chicago, Ill.

Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago, Ill.

Purchases and Stores Division.—W. J. Farrell (Executive Vice-Chairman), Transportation Bldg., Washington, D. C.

Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago, Ill.

Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington, D. C.

Car Service Division.—E. W. Coughlin (Assistant to Chairman), Transportation Bldg., Washington, D. C.

Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington, D. C.

Accounting Division.—E. R. Ford, Transportation Bldg., Washington, D. C.

Treasury Division.—E. R. Ford, Transportation Bldg., Washington, D. C.

Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Claim Agent, Alton R. R., 340 W. Harrison St., Chicago, Ill.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—P. R. Austin, Johns-Manville Sales Corp., Merchandise Mart, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal, Que. Regular meetings, second Monday of each month, except June, July and August, Windsor Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—F. H. Stremmel, 6536 Oxford Ave., Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—Ralph J. Feddor, 2803 N. Campbell Ave., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—Mrs. M. D. Reed, 1840-42 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. T. Bouher, 7124 Lincoln Drive, Philadelphia, Pa.

EASTERN CAR FOREMAN'S ASSOCIATION.—W. P. Dizard, 30 Church St., New York, N. Y. Regular meetings, second Friday of January, March, April, May, October and November, 29 W. 39th St., New York, N. Y.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington, D. C. Annual meeting, September 14-16, 1943, Edgewater Beach Hotel, Chicago, Ill.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Vendome, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box A, Sausalito, Cal. Regular meetings, second Thursday of each alternate month, at Palace Hotel, San Francisco, Cal., and Hotel Hayward, Los Angeles, Cal.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 624 W. Adams St., Chicago, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with Telegraph and Telephone Section of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 507 Shell Bldg., St. Louis, Mo. Annual meeting, May 16-17, 1944, Netherland Plaza Hotel, Cincinnati, O.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—Miss Elinor Heffern, Room 822, 310 S. Michigan Ave., Chicago, Ill. Business meeting, September 15, 1943, Hotel Sherman, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga. Ry., Savannah, Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACE SUPPLY ASSOCIATION.—Lewis Thomas Q. and C. Company, 59 E. Van Buren St., Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 112 Hatfield Place, Port Richmond, Staten Island, N. Y. Annual meeting, October 13-14, 1943, Hotel McAlpin, New York, N. Y.

WESTERN RAILWAY CLUB.—E. E. Thulin (Executive Secretary), Suite 339, Hotel Sherman, Chicago, Ill. Regular meetings, third Monday of each month, except January, June, July, August and September, Hotel Sherman, Chicago, Ill.

Equipment and Supplies

FREIGHT CARS

The ELGIN, JOLIET & EASTERN has placed an order, subject to the approval of the War Production Board, for 200 hopper cars with the Ralston Steel Car Company.

The CLINCHFIELD has increased its order for hopper cars with the American Car & Foundry Co. from 400 to 500. The War Production Board has authorized the building of 200 of these cars during the fourth quarter of this year and the rail-

road is endeavoring to secure the board's approval to build the entire number at that time.

The CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC has ordered 300 box cars from the railroad's own shops. War Production Board authorization to build the cars has been received.

The LEHIGH VALLEY has placed orders, subject to the approval of the War Production Board, for 900 hopper cars and 250 gondola cars with the Bethlehem Steel Company for 1944 delivery. The cars will be of composite wood and steel construction.

The DETROIT, TOLEDO & IRONTON has increased its order for hopper cars with the Greenville Steel Car Company from 70 to 100. The cars are of 70 tons' capacity and of composite wood and steel construction. War Production Board authorization for the building of the 100 cars has not been received.

The ATCHISON, TOPEKA & SANTA FE has placed orders for 600 box cars, 200 gondola cars and 200 hopper cars with the General American Transportation Corporation. War Production Board authorization for the building of this equipment has been received. The cars will be of composite wood and steel construction.

The CHICAGO & ILLINOIS MIDLAND has ordered 62 gondola cars of 40 tons' capacity from the Mather Stock Car Company. War Production Board authorization to build the cars has been received.

SIGNALING

THE CENTRAL OF GEORGIA has been given permission by the Federal District court at Savannah, Ga., to install centralized traffic control on 153.7 miles of line between Weems, Ala., and Ochillie, Ga.



Women Are Now Employed in the Wire Room of the New York Central's LaSalle Street Station, Chicago

Supply Trade

E. W. Scarritt has been appointed sales manager of the **Elgin Softener Corporation**, Elgin, Ill. Mr. Scarritt is a vice-president of the company, with which he has been associated since 1927.

Adolph G. Schroeder, sales representative of **Iron & Steel Products, Inc.**, Chicago, has been promoted to manager of the machinery department to succeed **A. E. Waleski**, resigned.

T. L. Capps, service sales engineer for the **Standard Stoker Company**, has been appointed resident manager and service engineer in Canada, with headquarters in the company's Montreal, Que. office, to succeed the late Carl T. Mead.

John Easton has been appointed director of the development and standardization activities of the **Whiting Corporation** to succeed **A. J. Brown**, who has been transferred to California as manager of the Pacific coast branch.

The **Ransome Machinery Company**, Dunellen, N. J., designers and builders of machinery since 1850, and manufacturers of concrete mixers and road paving equipment, has been acquired by the **Worthington Pump Machinery Corp.**, as a wholly-owned subsidiary.

S. R. Kallenbaugh, metallurgical service representative in Cleveland, Ohio, and Detroit, Mich., for the **Timken Roller Bearing Company**, has been appointed west coast district manager of the company's steel and tube division, with offices in Los Angeles, Calif.

Cecil Davey has been elected vice-president and general manager of the **Everlasting Valve Company**, Jersey City, N. J. Mr. Davey began his career with the company in 1911. He was appointed plant superintendent in 1916, and subsequently was placed in charge of purchases.

W. H. Cordes, advertising manager of the **American Steel & Wire Co.**, a subsidiary of the United States Steel Corporation, has been appointed to head a newly-created sales research and development division of the company. Mr. Cordes has been associated with the American Steel & Wire Co. for thirty years and has been manager of sales promotion and advertising since 1935.

James J. Nelson has been appointed general manager of the Cramp Brass & Iron Foundries division of the **Baldwin Locomotive Works**. Mr. Nelson joined the Cramp Brass & Iron Foundries in 1932 as vice-president and sales manager, and continued as sales manager of the Cramp division when the company became affiliated with the Baldwin group. He previously was associated with the American Manganese Bronze Company as New York representative, and was appointed

sales manager of that company in Philadelphia, Pa., in 1926. Mr. Nelson served in the United States Navy from 1912 to 1919, resigning to become an assistant on the Joint Board of Review, which arranged the return to private owners of vessels commandeered by the government during the first world war.

Otis W. Hovey has been appointed development engineer on the staff of the **Alloys Development Corporation**, New York. The company has pioneered into the development and promotion of weight-saving steels of the low-alloy high-strength type, and for a number of years has furthered their use, principally, in the modern design of mobile structures used in land and water transportation. Mr. Hovey is a graduate of Dartmouth College and of the Thayer School of Engineering. He served with the Army Engineers in world war I and has since been engaged as designing engineer on many types of steel structures. During recent years Mr. Hovey has devoted himself to



Otis W. Hovey

the lightweight trend in railroad equipment, having been employed for some time by the Edward G. Budd Manufacturing Company on designs employing stainless steel. He was later associated for several years in the railroad research bureau of the subsidiary companies of the United States Steel Corporation in developing uses for high-strength low-alloy steels in railroad freight-car construction. Mr. Hovey's headquarters will be at the company's offices, Park building, Pittsburgh, Pa.

OBITUARY

Allan H. McMahan, district manager of the Portsmouth, Va., plant of the National Bearing Metals Corp., St. Louis, Mo., died on July 25. Mr. McMahan was born on June 25, 1902, and became associated with the National Bearing Metals Corp. on a temporary basis in 1920 and after being graduated from Washington University in 1923 was employed permanently.

Construction

More D. & R. G. W. Improvements

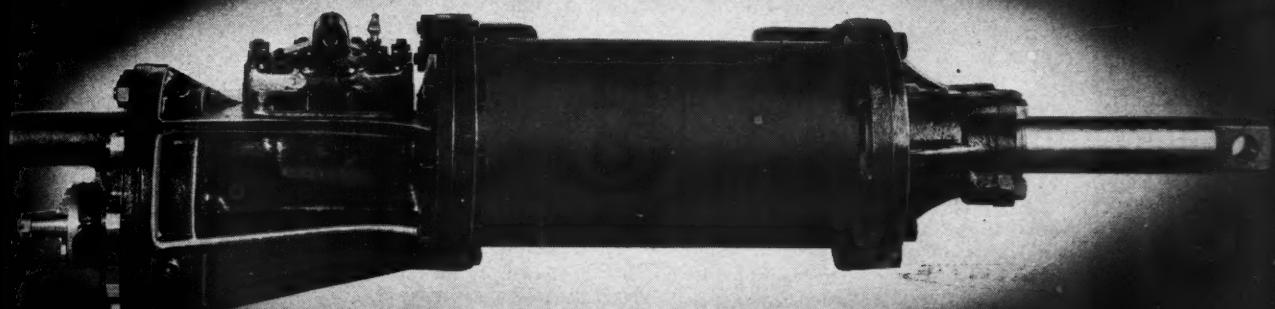
In addition to the improvement program reported in the *Railway Age* of February 13, page 379, this road is engaged in the following work: A contract amounting to approximately \$35,000 has been awarded Claybaugh, Simpson & Reiff for grading for extensions to passing tracks in connection with the installation of C. T. C. between Green River, Utah, and Helper. A contract amounting to about \$27,500 has been awarded to the Miner Construction Company for grading in connection with changes in and the extension of the yard at Provo, Utah.

Other work now being done by company forces is as follows: The construction of additional tracks at Price, Utah, and Maxwell at an estimated cost of \$108,950; extending the passing track at Grand Junction, Colo., 6,703 ft. west to Durham at an estimated cost of \$28,480; the insertion of six inches of metalliferous slag ballast in the main line on the Dotsero Cutoff between mile post 151.31 and mile post 166.85 at a cost of \$63,594; ballasting 13 miles of track with gravel on the Sunnyside branch at a cost of \$42,570; relaying 69.03 miles of 90-lb. and 110-lb. rail at six locations on the main line with 131-lb. and 115-lb. rail, at a cost of \$600,000; replacing a concrete roof on the roundhouse at Burnham, Colo., with timber at a cost of \$64,000; replacing a roundhouse floor at Pueblo, Colo., at a cost of \$54,660; and installing additional phone circuits at various points on the line at a cost of \$21,400.

In addition to the above work, the following work has been authorized and may be completed later this year: Relay 21.87 miles on branch lines with second hand 85-lb. and 90-lb. rail, at a cost of \$102,000 (one-half of this work will be deferred because of WPB allocations); construct additional tracks and make track changes at Roper, Utah, at an estimated cost of \$58,870; construct a two-story brick yard office for the West yard at Pueblo, estimated cost \$24,000; construct a motorway dock platform and garage at Pueblo, estimated cost \$30,000; modernize and improve the passenger station at Colorado Springs, Colo., at a cost of \$25,000; construct a new freight station and yard office at Provo, at a cost of \$38,000; construct a new passenger station at Helper, at a cost of \$55,000, and a new water-treating plant with necessary trackage at the same point, at an estimated cost of \$56,340; construct two main-line engine inspection pits at Grand Junction, Colo., at a cost of \$26,000; and extend C. T. C. from the east end of the yard at Helper to the station at an estimated cost of \$39,160.

BALTIMORE & OHIO.—This road has been authorized by Division 4 of the Interstate Commerce Commission to construct a 9.54-mile extension to a branch line which joins its West Virginia & Pittsburgh branch at Curtin, W. Va.

TO GET AND KEEP THE MOST EFFICIENT CUT-OFF



The reverse gear plays an important role in maintaining just the proper cut-off for full power and economy at any speed.

Franklin Precision Power Reverse Gears make it possible for the locomotive engineman to adjust cut-off accurately with a minimum of physical effort. He can apply his skill to obtain the precise cut-off best suited to the varying conditions of road service, thereby permitting maximum efficiency of operation.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

Financial

While the project is expected to be completed within a year, it will be built in two segments; the first, to extend to Little Laurel Creek, is estimated to cost \$297,750, while the final portion, to be undertaken later, will cost about \$512,000. The project will traverse mountainous country, opening up an undeveloped coal mining area.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—This road has awarded a contract to J. S. McLaughlin & Sons, Des Moines, Iowa, for the construction of seven miles of track between Woodward, Iowa, and Granger, at an approximate cost of \$278,000. When the work is completed the road will retire 4½ miles of the present line between Madrid, Iowa, and Granger, including a bridge over the Des Moines River.

DENVER & SALT LAKE.—This road is installing 26 miles of automatic block signals and extending certain tracks between Kremmling, Colo., and Bond, at an estimated cost of \$88,000.

NEW YORK CENTRAL (BIG FOUR).—A 30-ft. by 107-ft. freighthouse with 8-ft. by 91-ft. driveways, and 348 ft. of track is being constructed at Osborn, Ohio. A contract for the construction of the freight house was awarded George W. Timmons, Columbus, Ohio. The work will cost approximately \$23,700.

PENNSYLVANIA.—This railroad has awarded a contract for grading of track at Havre de Grace and Aberdeen, Md., at estimated cost of \$125,000, to the Piorier & McLane Corporation, New York.

WAR DEPARTMENT.—The U. S. Engineer office, Los Angeles, Cal., has awarded a contract, amounting to approximately \$35,000, to Robert E. McKee, Los Angeles, for the construction of a railroad unloading platform in California.

Abandonments

CHESAPEAKE & OHIO.—Division 4 of the Interstate Commerce Commission has authorized this company to abandon a segment of a branch from a point near Glen Junction, W. Va., to the end of track near Flat, 14.66 miles.

NORTHERN PACIFIC.—This company has applied to the Interstate Commerce Commission for authority to abandon a 2-mile segment of line from Norton Junction, Mont., to Stuart.

READING.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon a 1,500-ft. segment of line crossing the Schuylkill River from Cumru Junction, Pa.

SOUTHERN PACIFIC.—This road has been authorized by Division 4 of the Interstate Commerce Commission to abandon part of a branch from Kerman, Calif., to Caruthers, 17.2 miles.

BALTIMORE & OHIO.—Promissory Notes.—This company has applied to the Interstate Commerce Commission for authority to issue \$5,774,557 of promissory notes in evidence of, but not in payment for, the unpaid balance on certain conditional sales contracts for equipment.

BALTIMORE & OHIO.—Operation of Branch.—Division 4 of the Interstate Commerce Commission has authorized this company to operate a branch extending 2.46 miles from a point near Curtin, W. Va., and to extend that branch about 9.54 miles to serve an undeveloped coal mining area.

COLORADO & WYOMING.—Deficit Status.—Division 4 of the Interstate Commerce Commission has dismissed this road's claim for payment \$254,390 as compensation for losses during the period of federal control, finding that in spite of adjustments in accounts and a reduction in the total claimed the required showing of loss in net railway operating results was not developed in the record.

DILLONVALE & SMITHFIELD.—Capital Stock.—Division 4 of the Interstate Commerce Commission has authorized this company to issue \$200,000 of common stock to be delivered to the Hanna Coal Company in substitution for 3,845 shares of stock issued without commission approval. This transaction is a step in a proposed merger agreement, under which the coal company will sell this stock to the Lake Erie, Alliance & Wheeling, a wholly owned subsidiary of the New York Central, after which acquisition the issuing company will be dissolved.

MINNEAPOLIS & ST. LOUIS.—Reorganization.—The Minneapolis & St. Louis Railway Company and the Minneapolis & St. Louis Railroad Corporation have applied to the Interstate Commerce Commission for approval of modifications in their reorganization plan prepared by Coverdale & Colpitts as reorganization managers. Under the proposed amendments the loan from the Reconstruction Finance Corporation would be eliminated and the new "company" would not issue the \$4,000,000 of first mortgage four per cent bonds as previously proposed. Meanwhile the previously-proposed \$2,015,000 issue of second mortgage income bonds would become general mortgage income bonds of the same total amount.

NEW YORK CENTRAL.—Lease Modification.—This road has applied to the Interstate Commerce Commission for approval of a modified agreement for its lease of the Toledo & Ohio Central embodying adjustments in depreciation accounting methods.

NEW YORK CENTRAL.—New York & Harlem Offer.—Stockholders of the New York & Harlem on August 5 approved the issuance of \$7,820,000 of non-callable 4 per cent mortgage bonds, which are to be purchased by the New York Central, lessee of the N. Y. & H., and exchanged for the

minority stock holdings of the Harlem. (For details of plan, see *Railway Age* of July 10, page 76.)

NEW YORK CENTRAL.—Lease Modification.—This road has applied to the Interstate Commerce Commission for approval of an agreement revising the terms of its lease of the New York Connecting with respect to depreciation and retirement accounting.

NEW YORK CENTRAL.—Acquisition.—This company, which controls the St. Joseph, South Bend & Southern through ownership of a majority of its capital stock and operates it under lease, has applied to the Interstate Commerce Commission for authority to purchase the property of the subsidiary.

NEW YORK, CHICAGO & ST. LOUIS.—New Director Elected.—John T. Wheeler, president of John T. Wheeler & Co., Cleveland, Ohio, was elected a director of the New York, Chicago & St. Louis (Nickel Plate), at a board of director's meeting held in Cleveland recently.

PENNSYLVANIA.—Merger of Subsidiaries.—This company has applied to the Interstate Commerce Commission for authority to acquire control of the Little Miami, now operated under lease, in which it has a minority stock interest at present. The transaction would be accomplished by an exchange of the stock of the Little Miami share for share for that of the Columbus & Xenia, substantially all of which is owned by the Pennsylvania. The Columbus & Xenia then would be merged into the Little Miami, and a lease agreement for its operation will be assigned to the parent company.

At the same time the Little Miami has applied for authority to acquire the property of the Dayton & Western, operated by the Pennsylvania under lease. As the stock of this company is described as of no value, no consideration is involved. To acquire the Columbus & Xenia it is proposed to issue 35,724 shares of Little Miami stock, for which the Pennsylvania will assume liability as lessee.

ST. LOUIS-SAN FRANCISCO.—New Trustee.—Division 4 of the Interstate Commerce Commission has ratified the appointment of Frank A. Thompson as substitute co-trustee of this road.

Average Prices Stocks and Bonds

	Last Aug. 10	week	Last year
Average price of 20 representative railway stocks..	36.75	36.55	26.52
Average price of 20 representative railways bonds..	78.86	78.76	65.01

Dividends Declared

Pittsburgh, Youngstown & Ashtabula.—Preferred, \$1.75, quarterly, payable September 1 to holders of record August 20.

THE CHILEAN GOVERNMENT has acquired a private railway line extending 60 kilometers between Monte Aguilera and Antuco in the Concepcion district, Chile, according to a report in the Foreign Commerce Weekly.

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Railway Officers

EXECUTIVE

W. G. Abriel, assistant manager of personnel of the New York Central, with headquarters at New York, has been appointed manager of personnel, with the same headquarters, succeeding **L. W. Horning**, whose appointment as vice-president, personnel, was reported in the June 12 issue of *Railway Age*.

Herman W. Klein, whose promotion to assistant vice-president, system freight traffic, of the Southern Pacific, with headquarters at San Francisco, Cal., was reported in the *Railway Age* of July 24, was born at Lathrop, Cal., on September 4, 1889, and entered railway service in 1906 in the general freight department of the St. Louis-San Francisco at St.



Herman W. Klein

Louis, Mo. In January, 1910, he went with the Southern Pacific, holding various positions at San Francisco, including those of chief clerk, assistant general freight agent and general freight agent. On August 1, 1934, Mr. Klein was transferred to Portland, Ore., as general freight agent, and in July, 1942, he was promoted to freight traffic manager, Northern district, with the same headquarters, the position he held at the time of his new appointment, effective July 15.

Murray C. Anderson, whose promotion to assistant to the vice-president of the Great Northern, with headquarters at St. Paul, Minn., was reported in the *Railway Age* of August 7, was born at Breckenridge, Minn., on January 5, 1888, and entered railway service on June 21, 1905, as a clerk and timekeeper of the Great Northern at Breckenridge, later serving in that capacity at Spokane, Wash., and Whitefish, Mont. In 1913 he was advanced to chief clerk to the division superintendent at Whitefish, and four years later he was placed on special assignment, with headquarters at St. Paul. In September, 1917, Mr. Anderson was promoted to

transportation inspector at Superior, Wis., and from December, 1917, to June, 1919, he served overseas with the U. S. Army Engineering Corps. On July 1, 1919, he returned to the Great Northern as transportation inspector, and on May 1, 1920, he was advanced to trainmaster, serving in that capacity on the Breckenridge and Willmar divisions. On October 15, 1926, he was appointed chief clerk of the division superintendent at Minneapolis, Minn., and on April 1, 1940, he was promoted to wage and schedule supervisor, with headquarters at St. Paul, the position he held at the time of his new promotion.

at Sacramento, Cal., has been transferred to the California-Arizona-New Mexico division, with headquarters at Los Angeles, Cal., succeeding **Frederick C. Rockey**, who has been transferred to Sacramento, replacing Mr. Hite.

G. H. Pescud, whose promotion to superintendent of traffic, Western lines, of the Canadian Pacific, with headquarters at



G. H. Pescud

Winnipeg, Man., was reported in the *Railway Age* of July 3, was born in Surrey, England, and entered railway service on the Canadian Pacific in 1923 as a telegraph messenger at Swift Current, Sask., subsequently serving as telegraph operator, agent, and wire chief at various points on the Saskatchewan district. In 1937 Mr. Pescud was promoted to chief clerk to the general manager of the communications department, with headquarters at Montreal, Que., holding that position until his new appointment, effective July 1.

Edward W. Chapman, whose appointment as superintendent of terminals of



C. N. R. Photo

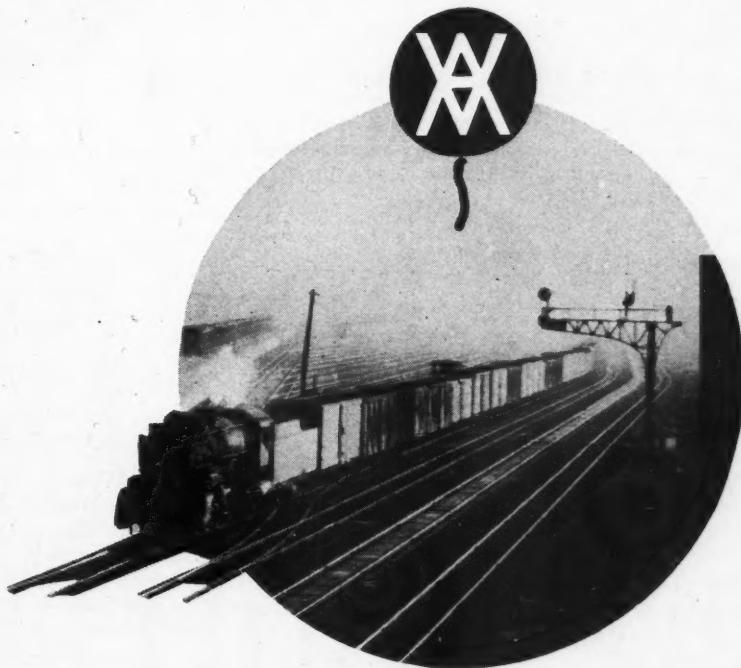
Edward W. Chapman

the Canadian National, with headquarters at Sydney, N. S., was announced in the *Railway Age* of July 24, was born at Dartmouth, N. S., on September 17, 1890. He entered the service of the Canadian Government Railways as transitman at Truro on July 7, 1914. In January, 1916, he enlisted for overseas military service

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- 2 If minor replacements are necessary, it is sound practice to use "genuine" parts, to insure a good maintenance job without extra machining or fitting. Time and labor are minimized, reliable service prolonged.
- 3 When a valve needs major repairs, let us do this work for you. We have adequate and proper facilities—skilled mechanics, improved methods, accurate machines and tools. Exacting standards in materials and workmanship are thus maintained, correct performance of reconditioned apparatus is guaranteed.
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WILMERDING, PENNSYLVANIA

in the first World War, returning to his job as transitman at Truro in June, 1919. He became instrumentman at New Glasgow in June, 1923, and in November, 1927, he was appointed division engineer at Edmundston, N. B. He became assistant superintendent in March, 1942, serving in that capacity until his appointment as superintendent of terminals.

TRAFFIC

Heusted T. Young, assistant general agent of the Erie at Philadelphia, Pa., retired from active duty on August 1, at his own request.

D. I. Burwell has been appointed division freight and passenger agent of the Missouri Pacific at Poplar Bluff, Mo., succeeding **W. D. Arens**, deceased.

H. B. Bovee, acting foreign freight agent of the Pennsylvania, has been promoted to foreign freight agent, with headquarters as before at Chicago.

Gilbert O. Baker, assistant superintendent of the Canadian National, with headquarters at New Glasgow, N. S., has been appointed general agent at Halifax, N. S.

Mahlon H. Dorman has been appointed general agent of the Mt. Hope Mineral Railroad, with headquarters at Wharton, N. J., succeeding **Charles H. Chabot**, whose death on July 24 was reported in the *Railway Age* of July 31.

Samuel W. Elmore, traveling freight agent of the Northern Pacific at Portland, Ore., has been promoted to general agent, freight department, with headquarters at Seattle, Wash., succeeding **W. J. Woodruff**, who has retired.

George R. Marye has been appointed general merchandising agent of the Kansas City Southern and the Louisiana & Arkansas, with headquarters at Shreveport, La., succeeding **H. N. Nunnally**, who has resigned.

T. D. Ferguson, assistant traffic manager of the Waterloo, Cedar Falls & Northern, with headquarters at Waterloo, Iowa, has been transferred to Chicago, replacing **William C. Welch**, whose death on June 2 was reported in the *Railway Age* of June 12.

W. J. Schill, assistant general freight agent of the Missouri Pacific, has been promoted to general freight agent, with headquarters as before at Houston, Tex., succeeding **J. E. Bailey**, who has retired. **D. M. Camp** has been appointed assistant general freight agent, replacing Mr. Schill.

A. L. Webb, general agent of the Missouri Pacific at San Antonio, Tex., has been appointed division freight and passenger agent at Salina, Kans., succeeding **O. E. Blacketer**, who retired on August 1. **A. J. Batliner** will succeed Mr. Webb as general agent at San Antonio.

ENGINEERING & SIGNALING

W. B. Friend has been appointed right-of-way agent of the Norfolk & Western, with headquarters at Roanoke, Va., succeeding **W. F. Genheimer**, who has retired.

W. O. Cudworth, assistant engineer maintenance of way, of the Canadian Pacific, with headquarters at Toronto, Ont., has been appointed engineer maintenance of way, Eastern lines, with the same headquarters, succeeding **Lt.-Col. Blair Ripley**, C. B. E., D. S. O., who has been assigned to special duties. **George W. Miller**, division engineer, will succeed Mr. Cudworth as assistant engineer maintenance of way at Toronto.

Leland Clapper, whose promotion to chief engineer of the Duluth, Missabe & Iron Range, with headquarters at Duluth, Minn., was reported in the *Railway Age* of August 7, was born at Washington, Iowa, on July 31, 1886, and is a graduate of Iowa State College and the Massachusetts Institute of Technology. He entered railway service on May 1, 1906, as a draftsman of the Great Northern, subsequently serving as rodman and assistant engineer at Superior, Wis., and St. Paul, Minn. In May, 1910, Mr. Clapper was appointed assistant engineer of the Duluth, Missabe & Northern (now the D. M. & I. R.) with headquarters at Two Harbors, Minn., and later served as engineer of bridges and buildings and principal assistant engineer, with headquarters at Duluth. Early in 1937 he was promoted to assistant chief engineer, which position he held until his recent appointment.

MECHANICAL

Frank Bittner, whose appointment as superintendent of motive power and car equipment of the Quebec district, Central region, of the Canadian National, with headquarters at Quebec, Que., was an-



Frank Bittner

nounced in the *Railway Age* of July 17, is a native of Pittsburgh, Pa. He entered railway service in 1904 as machinist apprentice. In October, 1908, he became machinist for the Quebec, Montreal & Southern, serving in that capacity at sev-

eral points on the road. From June 1917, to October, 1929, he served successively as erecting shop foreman, fitter, locomotive fireman and machine shop foreman. When the Quebec, Montreal & Southern was taken into the Canadian National system in 1929, Mr. Bittner was appointed assistant foreman. The following year he was promoted to night locomotive foreman at Janquiere, Que., and in April, 1937, he was promoted to locomotive and car foreman at Taschereau, Que. Four years later he became locomotive foreman at Limoilou, the position he held at the time of his recent promotion.

A. C. Melanson, superintendent of motive power and car equipment of the Canadian National's Quebec district, has been promoted to a senior district—the Southern Ontario district—with headquarters at Toronto, Ont. He will be succeeded by **Frank Bittner**, locomotive foreman, with headquarters at Limoilou, Que., whose biography appears elsewhere in these col-



A. C. Melanson

umns. Mr. Melanson entered railway service at the age of 18 as machinist apprentice on the Canadian Government Railways. He later became draftsman and in January, 1922, he was appointed material inspector, later serving as superintendent of the St. Malo, Que., motive power and car shops of the C. N. R. In February, 1939, Mr. Melanson was appointed superintendent of motive power and car equipment for the Quebec district, the position he held at the time of his recent promotion.

J. H. Wilson, master mechanic of the Dominion Atlantic Railway, with headquarters at Kentville, N. S., will retire from active service on August 31 after many years of loyal and efficient service with that road and its parent company, the Canadian Pacific. **W. J. McKay** has been appointed master mechanic to fill the vacancy.

W. F. Connal, chief mechanical engineer of the Canadian National, with headquarters at Montreal, Que., has retired under the company's pension regulations and will be succeeded by **Frank Williams**, mechanical engineer in charge

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of shop methods at Montreal. Mr. Connal was born at Peterboro, Ont. He was graduated from McGill University with a B. S. degree in 1897. After serving in various shop and engineering positions in Cleveland, Chicago, Philadelphia and New York, Mr. Connal engaged in construction



W. F. Connal

work on the National Transcontinental. In 1919 he was appointed mechanic engineer for the Canadian National at Toronto and in 1923 he was transferred to Montreal. He became chief mechanical engineer of the system in 1940, the position he held at the time of his retirement. Mr. Connal has participated in many studies pertaining to locomotive design and his suggestions for reducing the loss of pressure between boiler and cylinders with consequent increase of power and more economical coal consumption aided in the development of the Northern type locomotive.

Mr. Williams was born at Otterton, Devon, England. He received his special



C. N. R. Photo

Frank Williams

apprenticeship training in the shops and roundhouse drawing offices of the former London & South Western, which training was later amplified by technical instruction. He came to Canada in 1911 and was employed by the Montreal Lo-

cotive Works. In 1914 he entered the service of the Canadian Government Railways as a draughtsman in the mechanical department. Two years later he was loaned to a munitions plant, returning to railway service at Moncton in 1918. He later advanced through the positions of mechanical designer and mechanical engineer and in January, 1929, he was transferred to Montreal as mechanical engineer in charge of shop methods. In April, 1933, Mr. Williams took charge of shop methods for the entire system, continuing in this position until his recent promotion.

Paul A. Buckman has been appointed master mechanic of the Oklahoma division of the Atchison, Topeka & Santa Fe, with headquarters at Arkansas City, Kan., succeeding **John G. Danneberg**, whose transfer to Argentine, Kan., was reported in the *Railway Age* of July 3.

OBITUARY

William Berger Geiser, chief chemist at the Collinwood laboratory of the New York Central, died on August 7 at his home in Cleveland, Ohio.

Frederick O. Finn, export and import agent of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Seattle, Wash., died in that city on July 30.

H. L. Borden, vice-president and secretary of the Atlantic Coast Line, with headquarters at New York, died on August 5. Mr. Borden had been with the company for 56 years.

Goodwin Ford, retired general superintendent of the Western lines of the Canadian Pacific Express Company, died in a hospital in Vancouver, B. C., on August 3 after a brief illness. Mr. Ford retired from active service in 1928.

P. D. Sutherland, director of the secretariat department of the British Ministry of War Transport, died at the Hotel Dieu hospital in Quebec City on August 5 after a brief illness. Mr. Sutherland was 65 years of age. Prior to entering the war ministry, he had served in various capacities with the Canadian Pacific for approximately 44 years. At the time he joined the ministry he was general passenger agent, in charge of cruises.

Elbert H. Dresser, chief engineer of the Duluth, Missabe & Iron Range, whose recent death was reported in the *Railway Age* of August 7, was born on October 9, 1878, at Jefferson, Iowa. He attended Rensselaer Polytechnic Institute and entered railway service in September, 1899, in the engineering department of the Duluth, Missabe & Northern (now the D. M. & I. R.) continuing with that railroad until 1918 and advancing during that time through various positions to that of division engineer. Upon his return from military service during the World War in 1919, Mr. Dresser engaged in general contracting in the Ranger district of Texas

and in the following year he became president of the Polaris Concrete Products Company, Duluth, Minn. In January, 1928, he returned to the D. M. & I. R. as chief engineer, the position he held at the time of his passing.

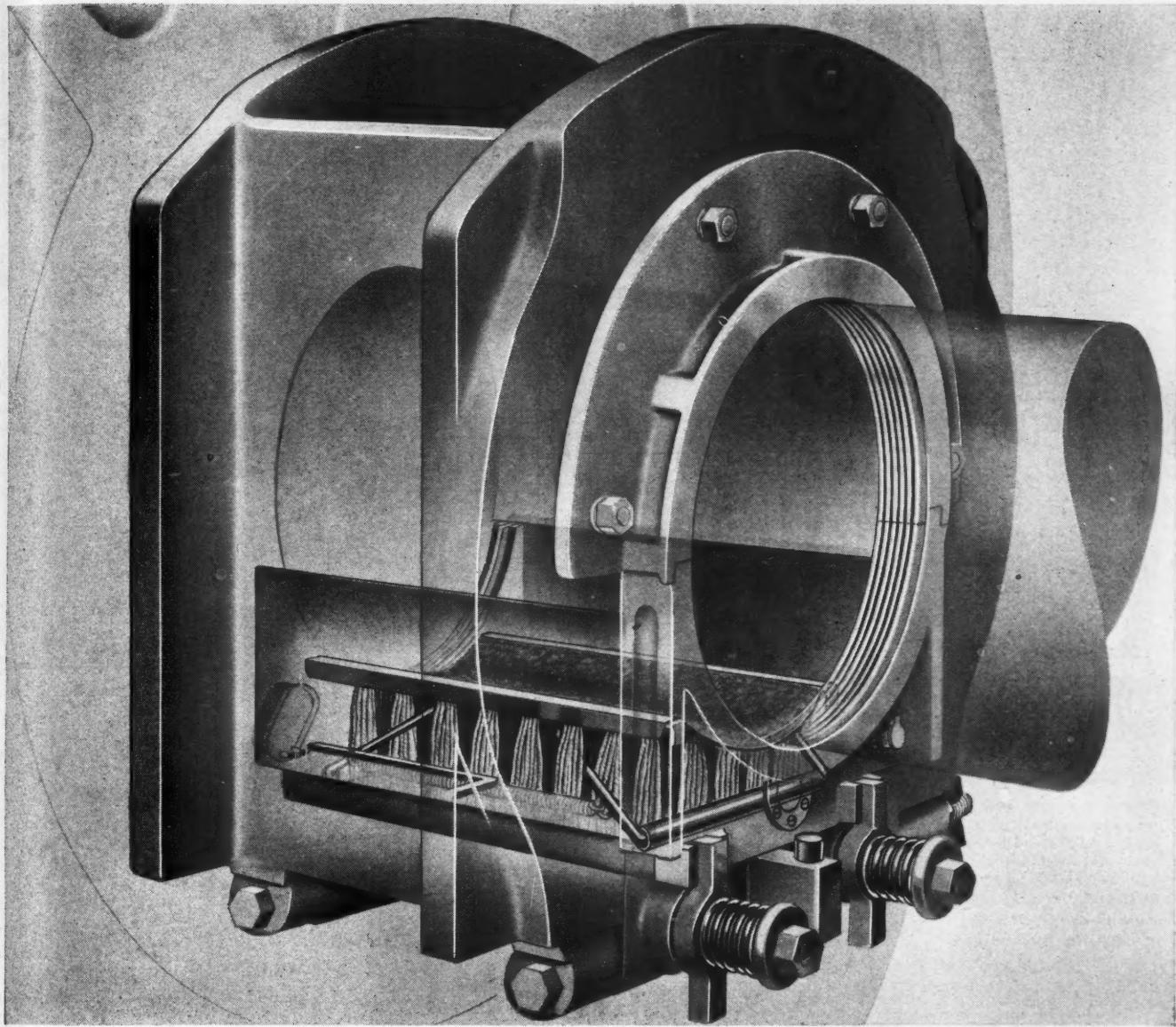
Ronald J. Bennyhoff, assistant purchasing agent of the Northern Pacific, with headquarters at Seattle, Wash., died in that city recently following a heart attack. Mr. Bennyhoff was born at Oconto, Wis., on September 1, 1892, and attended business college at Tacoma, Wash. He entered railway service in the purchasing department of the Northern Pacific at Tacoma on March 20, 1913, as a stenographer and clerk. On November 1, 1919, Mr. Bennyhoff was promoted to chief clerk, and in June 1940, he was advanced to the position he held at the time of his passing.

George R. Hecker, general passenger agent of the Missouri-Kansas-Texas, with headquarters at St. Louis, Mo., whose death on July 27 was reported in the *Railway Age* of August 7, was born on December 1, 1881, and entered railway service as an office boy in the general offices of the M-K-T at St. Louis on March 1, 1898. He served in several capacities in the general offices, later being advanced to station passenger agent at St. Louis, district passenger agent at Oklahoma City, Okla., and traveling passenger agent, with headquarters at Cincinnati, Ohio. On August 1, 1933, Mr. Hecker was promoted to the position he held at the time of his passing.

Albert S. Ingalls, who retired in 1931 as assistant vice-president of the New York Central, with headquarters at Cleveland, Ohio, died at Hot Springs, Va., on August 8. Mr. Ingalls was born at Cincinnati, Ohio, on February 27, 1874 and graduated from Harvard University in 1896. He entered railway service in 1896 as a clerk of the Cleveland, Cincinnati, Chicago & St. Louis (Big Four) at Cincinnati, later serving as a clerk at Cleveland. In 1898 he was promoted to assistant superintendent and in 1901 to superintendent. In 1907 he went with the Lake Shore & Michigan Southern (now part of the New York Central) as assistant general superintendent. In January, 1910, he was transferred to the lines east of Toledo, his headquarters remaining at Cleveland. Mr. Ingalls was promoted to general superintendent, with the same headquarters, in June, 1911, and in January, 1915, when the consolidation of the Lake Shore & Michigan Southern with the New York Central was effected, was appointed general superintendent of the Third district of the New York Central, with headquarters at Cleveland. He was promoted to assistant general manager in May, 1916, and in February, 1917, was promoted to general manager of the lines west of Buffalo. In 1926 Mr. Ingalls was advanced to assistant vice-president of the New York Central, with headquarters at Cleveland, which position he held until his retirement.

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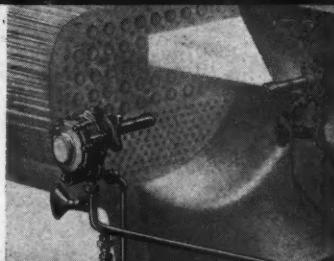


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